Nordenfjeldske Development Services

MEMBER OF THE PÖYRY GROUP

Identification of Potential Aquaculture and Fish Processing Investment Projects and Partners in Selected Countries in Africa

Volume III - Annex A - Nine Countries Profiles

Final Report - April 2009

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Nordenfjeldske Development Services

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Foreword

This report is one of four documents produced during a study conducted on the 'Identification of potential aquaculture and fish processing investment projects and partners in selected countries in Africa'. The study emanates from a memo to the Ministry of Foreign Affairs on strategic priorities for Norwegian cooperation assistance for business development within fisheries and aquaculture. It concluded that commercial companies in Norway have special competence, resources and interest that can be matched with existing or emerging commercial enterprises in developing countries, and provide a basis for collaboration and investments within the aquaculture and fish processing sectors. The purpose of the study was to provide relevant information for Norwegian companies interested in investment and/or joint ventures in African fisheries and aquaculture by identify potential investment projects and partners within the aquaculture, fish handling and processing sectors within selected African countries. The study has been undertaken focusing primarily on commercial viability, but wider issues such as development impact has also been noted[1].

The study was commissioned and financed by NORAD (Norwegian Development Assistance Agency) and completed by NFDS (Nordenfjeldske Development Services) and Econ Pöyry. The study team consisted of Dr James Muir (Team Leader and Fishery Sector Expert) and Ms. Emelie Aurell (Economist) who completed the field trips, supported by Ms. Sandy Davies, Mr. Per Erik Bergh, Mr. Audun Gleinsvik[2] and Mr. Sveinung Fjose. The study started in mid-2008 and was completed in early-2009; it included a preliminary meeting with NORAD, and visits to four countries (Ghana, Mozambique, Tanzania and Uganda). The descriptions, analysis, conclusions and recommendations are the responsibility of NFDS and Econ Pöyry.

Acknowledgements

The team would like to express their thanks to all those who assisted in this study, including the staff of NORAD who accompanied them on field visits and the many individuals that were consulted during field trips, assisted in arrangements and provided documentation. Special thanks are due to Ruby Asmah (Ghana), Nelly Isyagi (Uganda) and Peter Flewwelling (Mozambique). Photos by NFDS (Sandy Davies, Per Erik Bergh, Oivind Mikalsen).

Report structure

A large amount of material has been compiled during this study and has been arranged as follows:

a) **Volume I – Executive Document** – a brief overview of the main study process and findings.

b) **Volume II – Main Report –** sets out the study findings including background information, the initial assessment of all African countries, summaries of the nine potential countries for investment, further summaries of the four countries visited, and the recommended strategy and conclusions of the study.

c) **Volume III – Annex A -** contains the nine country profiles (Egypt, Ghana, Kenya, Mauritius, Mozambique, Namibia, South Africa, Tanzania and Uganda) made prior to the field visits. These were compiled as desk studies using publicly available information together with the teams' background knowledge.

d) **Volume IV – Annex B -** sets out the four country reviews (Ghana, Mozambique, Tanzania and Uganda) where field visits were conducted. These reports are based on locally sourced information and oral consultations. They build on the work done in Volume III and are more focused on the realities on the ground, recent trends and actors involved.

Note on sectoral data

Effort has been made to include the latest data that were available at each point in the study; however, in some cases older figures were used due to limited availability of information for all countries, to allow comparative analysis. Also it is noted that data from different sources do not always agree – we have used our best judgement to provide the reader with as accurate an overall picture as is possible given the uncertainty around some data.

[1] The TOR are attached in Annex 1: Volume II

[2] Mr Gleinsvik was unable to participate in field work as initially proposed but continued his involvement in backstopping, while Econ also provided Ms. Aurell as an additional team member.

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Abbreviation	Full name
ACDI/VOCA	Agricultural Cooperative Development International/ Volunteers in Overseas Cooperative Assistance
ACP	African Caribbean and Pacific
ADF	African Development Foundation
AfDB	African Development Bank
AIDS	Acquired Immune Deficiency Syndrome
AISA	Aquaculture Institute of South Africa
AMAPIC	Industrial Shrimp Fisheries Association (Mozambique)
ANAP	National Fisheries Association (Mozambique)
ARMAPESCA	Semi-Industrial Fisheries Association (Mozambique)
ASSAPEMO	Mozambique Fisheries Association
ATIIA	Africa Trade Insurance Agency
BEE	Black Economic Empowerment (South Africa)
BMU	Beach Management Unit
BSc	Bachelor of Science
CAADP	Comprehensive African Agricultural Development Programme
CASEIF	Central American Small Enterprise Investment Fund
CBO	Community Based Organisation
CCLME	Canary Current Large Marine Ecosystem
CDE	Centre for Development Enterprise
CGIAR	Consultative Group on International Agricultural Research
COMESA	The Common Market for Eastern and Southern Africa
CPI	Investment Promotion Centre (Mozambique)
CSIR	Council for Scientific and Industrial Research (Ghana)
CSR	Corporate Social Responsibility
CTA	Confederation of Business Association (Mozambique)
DEAT	Department of Environmental Affairs and Tourism (South Africa)
DFID	UK Department for International Development
DoF	Department of Fisheries (Ghana)
DSFA	Deep Sea Fisheries Authority (Tanzania)
DWFN	Distant Water Fishing Nations
EAC	East African Community
EACU	East Africa Custom Union
EC	European Community
ECOWAS	Economic Community Of West African States
EDIF	Export Development and Investment Fund (Ghana)
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EPA	Environmental Protection Agency (Ghana)
EPPO	Export Promotion Programme Office (Kenya)
EPZ	Export Processing Zone
EPZA	Export Processing Zone Authority (Tanzania)
ERS	Economic Recovery Strategy and creation of Employment (Kenya)
EU	European Union
FAD	Fish Aggregating Devices
FAO	Food and Agricultural Organisation of the United Nations
FAST	Faculty of Aquatic Sciences and Technology (where?)
FCUBE	Free, Compulsory, Universal Basic Education (Ghana)
FDI	Foreign Direct Investment
FIRI	Fisheries Research Institute (Uganda)

Abbreviation	Full name
FISH	Fisheries Investment for Sustainable Harvest, USAID Programme 2005-2009 (Uganda)
FISH	Fish Farming For Income Generation And Food Security, DFID Programme, 1999-2004 (Uganda)
FiTEC	Fisheries Training and Extension Centre (Mauritius)
FMRA	The Fisheries and Marine Resources Act (Mauritius)
FSA	Financial Services Act (Mauritius)
FSDA	Financial Services Development Act (Mauritius)
GAFCO	Ghana Agro-Food Company (Ghana)
GAFI	General Authority for Investment and Free Zones (Egypt)
GAFRD	General Authority for Fisheries Resources Development (Egypt)
GDP	Gross Domestic Product
GEF	Global Environment Facility
GEPC	Ghana Exports Promotion Council (Ghana)
GFZB	Ghana Free Zones Board (Ghana)
GIEK	The Norwegian Guarantee Institute for Export Credits
GIF	Ghana Investment Fund (Ghana)
GIFT	Genetically Improved Farmed Tilapia
GIPC	Ghana Investment Promotion Center
GNCCI	Ghana National Chamber of Commerce and Industry
GOU	The Government of Uganda
GSB	Ghana Standards Board (Ghana)
ha	Hectare
HACCP	Hazard Analysis Critical Control Point
HIPC	Heavily Indebted Poor Countries
HIV	Human Immunodeficiency Virus
HND	Higher National Diploma
Hrs	Hours
IAA	Integrated Agriculture Aquaculture
IBRD	International Bank for Reconstruction and Development
ICC	International Chamber of Commerce
ICEIDA	Icelandic International Development Agency
IC(A)M	Integrated Coastal (Area) Management
ICSID	International Centre for Settlement of Investment Disputes
IDF	Import Declaration Form (Kenya)
IDPPE	Institute for the Development of Small Scale Fisheries (Mozambique)
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation
IIP	Fisheries Research Institute (Mozambique)
ILM	Integrated Lake Management Programme, DFID
INIP	Institute for Fish Inspection (Mozambique)
IPC	Investment Promotion Centre (Kenya)
IPEX	Institute for Export Promotion (Mozambique)
IPPAs	Investment Promotion and Protection Agreements
IRR	Internal Rate of Return
IUCN	International Union for Conservation of Nature
IUU	Illegal, Unregulated and Unrecorded (catch or fisheries)
JAST	Joint Assistance Strategy for Tanzania
Kg	Kilogram
LME	Large Marine Ecosystem
LVEMP	Lake Victoria Environmental Management Programme
LVFO	Lake Victoria Fisheries Organisation

Abbreviation	Full name
m	Meter
MAAIF	Ministry of Agriculture, Animal Industries and Fisheries (Uganda)
MACEMP	Marine and Costal Environmental Management Project (Tanzania)
MAFS	Ministry of Agriculture and Food Security (Tanzania)
MCM	Marine and Coastal Management
MCS	Monitoring, Control and Surveillance
MFA	Ministry of Foreign Affairs (Norway)
MFMR	The Ministry of Fisheries and Marine Resources (Namibia)
MFRD	Marine Fisheries Research Division (Ghana)
MIGA	Multilateral Investment Guarantee Agency
MLDF	Ministry of Livestock Development and Fisheries (Tanzania)
MLRA	Marine Living Resources Act (South Africa)
MNRT	Ministry of Natural Resources and Tourism (Tanzania)
MOFI	Ministry of Fisheries (Ghana)
MONAP	Mozambique Nordic Agricultural Programme (Mozambique)
MOU	Memorandum of Understanding
MPAMITA	Mkakati wa Pamoja wa Misaada Tanzania
MRAC	Marine Resources Advisory Council
MSc	Master of Science
MW	Mega watt
NAFAG	National Fisheries Association of Ghana (Ghana)
NAFIRRI	National Fisheries Research Institute (Uganda)
NAMFI	Namibia Maritime and Fisheries Training Institute (Namibia)
NARO	National Agricultural Research Organization (Uganda)
NCCO	National Cold Storage Operations (Tanzania)
NEMA	National Environmental Management Authority (Uganda)
NEMC	National Environmental Management Council (Tanzania)
NEPAD	New Economic Partnership for Africa
NGO	Non-Governmental Organisation
NHO	Confederation of Norwegian Enterprises
NICMS	National Integrated Coastal Management Strategy (Tanzania)
NORAD	Norwegian Development Assistance Agency
NPV	Net Present Value
NRI	Natural Resources Institute (UK)
NSEC	Norwegian Seafood Export Council
OCT	Overseas Countries and Territories
OECD	Organisation for Economic Co-operation and Development
ONDD	The Belgian Export Credit Agency
OPEC	Organization of the Petroleum Exporting Countries
PBG	Policy Based Guarantee
PCG	Partial Credit Guarantees
PPP	Public-Private-Partnership
PRG	Partial Risk Guarantees
PRS	Poverty Reduction Strategy
PTM	Princes Tuna Mauritius
R&D	Research and Development
REC	Regional Economic Community
RFB	Regional Fishery Bodies
RMP	Risk Management Products
RV	Research Vessel

Abbreviation	Full name
SACU	Southern African Customs Union
SADC	Southern African Development Community
SAL	Sustainable Aquaculture Ltd (Ghana)
SEAFO	South-East Atlantic Fisheries Organisation
SEEGAD	Smallholder Empowerment and Economic Growth through Agribusiness and Association Development (Tanzania)
SEMMA	Sustainable Environmental Management through Mariculture Activities (Tanzania)
SEZ	Special Economic Zones (Tanzania)
SFLP	Sustainable Fisheries Livelihood Programme (Ghana)
SFP	Strengthening Fishery Products (Ghana)
SME	Small and Medium Scale Enterprise
SON	Source of the Nile (Uganda)
SUA	Sokoine University of Agriculture (Tanzania)
SWOT	Strengths, Weaknesses, Opportunities and Threats
t	Tonnes
TAC	Total Allowable Catch
TAFIMA	Tanzania Fisheries Research Institute (Tanzania)
TCCIA	Tanzania Chamber of Commerce, Industry and Agriculture (Tanzania)
TIC	Tanzania Investment Centre (Tanzania)
TIFPA	Tanzania Industrial Fishing and Processors Association (Tanzania)
TNBC	Tanzania National Business Council (Tanzania)
TNC	Trans National Companies
TSh	Tanzania Schilling
UBOS	Uganda Bureau of Statistics (Uganda)
UCA	Uganda Cooperative Alliance (Uganda)
UEPB	The Uganda Exports Promotion Board (Uganda)
UFFRO	Uganda Freshwater Fisheries Research Organization (Uganda)
UFPEA	Ugandan Fish Processors and Export Association (Uganda)
UIA	Uganda Investment Authority (Uganda)
UNAM	University of Namibia (Namibia)
UNCTAD	UN Conference on Trade and Development
UNDP	United Nations Development Programme
UNECA	UN Economic Commission for Africa
USA	United States of America
USAID	The United States Agency for International Development
USD	United States Dollars
USDM	University of Dar es Salaam (Tanzania)
USh	Ugandan Shilling (currency) (Uganda)
VAP	Value Added Processing
VAT	Value Added Tax
VMS	Vessel Monitoring System
WAF	West African Fish Limited (Ghana)
WAFICOS	Walimi Fish Cooperative Society Limited (Uganda)
WRI	Water Research Institute (Ghana)
ZIPA	Zanzibar Investment Promotion Authority (Tanzania)

1 Introduction

This document sets out the nine countries profiles that were made prior to any field visits; a summary of each is contained in the main report Volume II. The countries assessed were:

- Egypt,
- Ghana,
- Kenya,
- Mauritius,
- Mozambique,
- Namibia,
- South Africa,
- Tanzania, and
- Uganda.

This stage of the review was carried out as a desk study, based on available information, to identify African countries and areas where the potential for investment and cooperation is potentially positive. The focus has been particularly on the following:

- Aquaculture areas (marine and freshwater; hatcheries, floating cages and molluscs);
- Industrial fish processing (fresh and frozen, value added products);
- On board handling and processing (raw material, ice and refrigeration, quality management etc); and
- Fish sector supply industry – adding value in technology options.

This report maps out the resource and trade potential within the listed African countries, in order to identify those countries that have the best resource base, investment and trade environment. The criteria are based upon five primary conditions, namely:

- Natural and biological environment for fisheries;
- Environment for aquaculture;
- Environment for business development and foreign investment;
- Political risk and stability including governance; and
- Governments' intentions and encouragement in relation to regional and international trade.

The aim has been to identify a number of countries in which prospects for sectoral investments, and for which the qualitative issues noted above, might be particularly positive. From this could also be established the basis to specify the commercial areas and options involved, in more detailed assessments in the following sections. Associated with this also would be the closer identification of theme areas – particular initiatives and investment approaches which could hold the most promise. Here it may be practical to note that a specific theme could be focused around one or more highly promising countries but could be anticipated to 'roll out' to other countries if shown to be effective.

To provide an overall perspective for each country, data on the complete sector was compiled, including

- Total production: capture fisheries vs aquaculture
- Capture fisheries production
- Aquaculture production
- Fisheries commodities production
- Fisheries exports
- Fisheries imports

For comparable data, FAO statistics have been used, although these are delayed by compilation and validation requirements, with production and trade data to 2007 and 2006 respectively. National statistics are sometimes less reliable, but are used where possible to provide better local detail and more recent information.

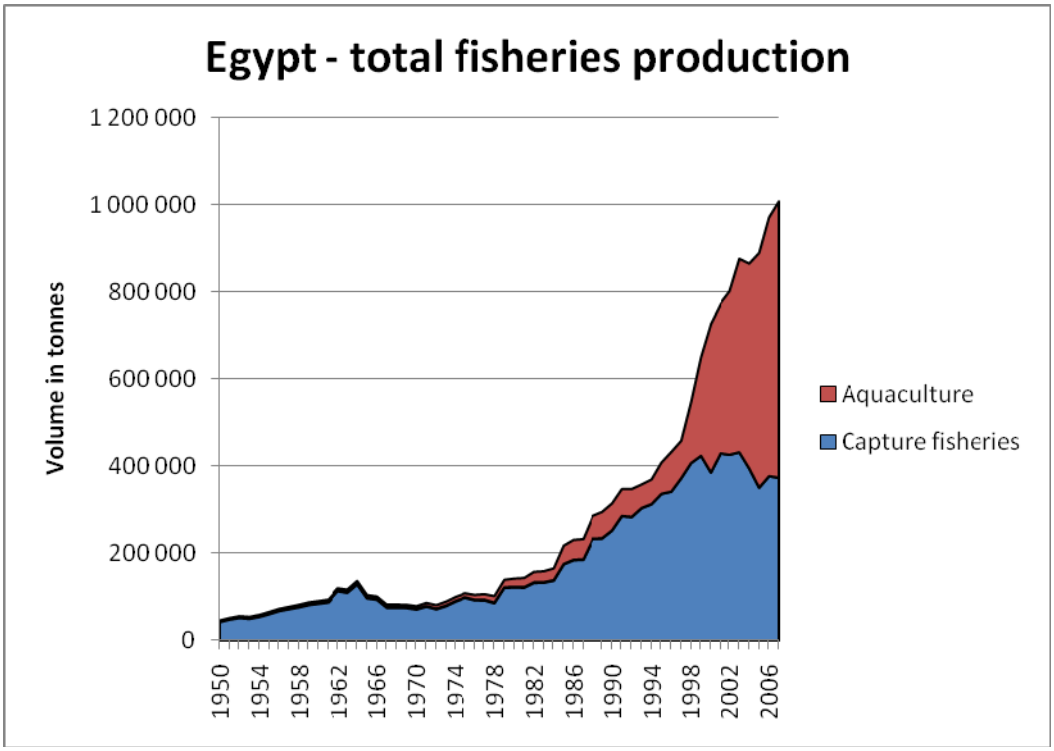
2 Egypt

2.1 Sector description – aquaculture primarily

Egypt has a long coastline, extending for about 2,500 km, together with a continuous continental shelf of about 53,000 km bordering the country on the north along the Mediterranean Sea coast and to the east along the Red Sea, with the Suez and Aqaba Gulfs. Moreover, Egypt has various inland resources, include the Nile River with many irrigation canals, six northern coastal lagoons opening to the Mediterranean Sea (Maruit, Edku, Burollus, Manzala, Port Fouad and Bardawil) and two opening to the Suez Canal (Timsah and Bitter Lakes), with two closed lakes (Qarun and Wadi Al Raiyan), and the great reservoir behind the Aswan High Dam (Lake Nasser). Recently, some small water bodies in the western desert have been redeveloped for fish production[3].

In 2001, the Egyptian marine registered fishing fleet operating in Mediterranean and Red Seas fishing grounds consisted of 6,388 vessels, of which 3,954 were motorized and the others under sail. The sailing fleet took 21 % of total landing. Most of the motorized fleet (62 %) was small wooden craft of less than 10 m in length and powered by inboard or outboard engines of less than 100 hp. Only 3 % were large steel vessel with engines of more than 500 hp. The marine sector employed 27,550 fishermen, of which 3,013 were categorized in the recreational sector.

Figure 2.1: Total fisheries production 2007 - Egypt



Source: FAO Fishstat 2009

[3] Source: FAO Fisheries and Aquaculture Country Profiles, 2009

Table 2.1: Capture fisheries production - Egypt

Species	2001	2002	2003	2004	2005	2006	2007
Aquatic animals nei	139	2,310	527	15	5	6	-
Crustaceans	11,918	13,306	11,845	13,660	14,217	15,135	16,998
Diadromous fishes	2,007	1,810	822	922	976	4,138	2,239
Freshwater fishes	254,331	250,823	270,164	238,455	202,097	197,789	192,635
Marine fishes	151,958	149,765	137,843	133,482	125,123	150,276	151,787
Miscellaneous aquatic animal production	1	1	1	1	1	1	1
Molluscs	8,298	7,156	9,608	6,960	7,135	8,550	8,832
TOTAL	**428,652**	**425,171**	**430,810**	**393,495**	**349,554**	**375,895**	**372,492**

FAO Fishstat 2009 - Volume in tonnes

Table 2.2: Aquaculture production – Egypt

Species	2001	2002	2003	2004	2005	2006	2007
Common carp	18,371	16,334	17,006	.	.	.	.
Cyprinids	.	.	.	135,025	143,784	97,194	109,656
European seabass	841	1,239	1,789	1,812	4,192	372	598
Flathead grey mullet	96,924	113,027	135,609	132,651	156,441	231,619	252,507
Freshwater fishes	.	.	.	.	.	.	.
Gilthead seabream	1,053	1,662	2,424	2,465	4,398	433	1,205
Grass carp(=White amur)	72,422	75,885	88,477	.	.	.	.
Jacks, crevalles	72	95	87	85	436	116	284
Marine fishes	.	.	.	.	.	.	.
Mudfish	656	228	232	459	10,180	6,058	5,287
Nile tilapia	152,515	167,735	199,557	199,038	217,019	258,925	265,862
Penaeus shrimps	9	90	<0.5	<0.5	3,298	313	87
River eels	1	1	<0.5	<0.5	<0.5	<0.5	30
TOTAL	**342,864**	**376,296**	**445,181**	**471,535**	**539,748**	**595,030**	**635,516**

FAO Fishstat 2009 - Volume in tonnes

Table 2.3: Fishery exports – Egypt

	2001	2002	2003	2004	2005	2006
Tonnes	1,265	2,574	3,154	4,960	5,474	4,374
USD 1000	1,348	2,328	3,089	3,919	4,371	3,495
Average value (USD/kg)	1.07	0.90	0.98	0.79	0.80	0.80

FAO Fishstat 2009

Table 2.4: Fishery imports– Egypt

	2001	2002	2003	2004	2005	2006
Tonnes	260,922	176,700	177,805	241,670	243,189	259,606
USD 1000	162,613	107,516	110,225	134,382	149,622	167,741
Average value (USD/kg)	0.62	0.61	0.62	0.56	0.62	0.65

FAO Fishstat 2009

Table 2.5: Fisheries commodities production – Egypt

Commodity	2000	2001	2002	2003	2004	2005	2006
Crustaceans and molluscs	188	245	568	482	612	824	587
Fish, canned	.	1	5	3	3	1	-
Fish, dried, salted, or smoked	9,986	10,000	10,000	10,000	10,000	10,000	10,000
Fish, fresh, chilled or frozen	34,570	30,040	30,043	30,123	30,011	30,000	30,039
Meals	-	-	-	-	-	-	-
TOTAL	**44,744**	**40,286**	**40,616**	**40,608**	**40,626**	**40,825**	**40,626**

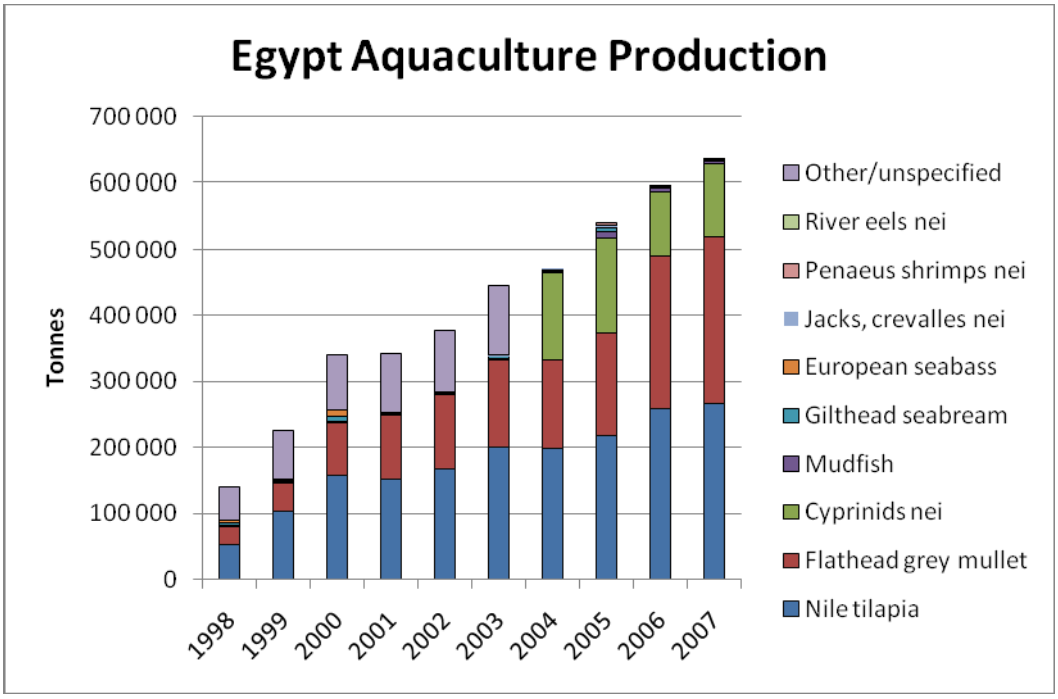
FAO Fishstat 2009 - Volume in tonnes

Modern aquaculture began in Egypt two decades ago following which the sector has witnessed a significant and rapid growth, to the extent that it is considered as the only viable option for reducing the significant and growing supply gap for domestic needs. It now accounts for about 63 % of total fish production, over 98 % of which is from privately owned farms; 635,516 t in 2007 with a total first-hand value of USD 1.2 billion. This includes all systems except culture-based fisheries (1,200 t), restocking programmes (2,600 t) and weed control programmes using grass carp (18,060 t), all of which depend on hatchery stocks.

The public sector primarily contributes with the fry and fingerlings, extension support, artificial feeds and research support. Hatchery production in 2004 reached 354 million, of which 44 % were carp species; 42 % tilapia and 14 % other fry species (seabream; seabass; sole; and mullet).

Presently, 14 species of finfish and two species of crustacean are cultured. Native species include: Nile and blue tilapia, North African (*Clarias*) catfish, flathead grey, thinlip and bluespot mullet, European seabass and gilthead seabream, meagre (*Argyrosomus regius*) and penaeid shrimp. Introduced species include: common carp, grass carp, silver carp, bighead carp, black carp and the giant river freshwater prawn (*Macrobrachium rosenbergii*). Of these, Nile tilapia is the most important, with a harvest of about 265,000 t, almost 42 % of total aquaculture harvest in 2007 (Figure 2.2), followed by the mullet species.

Figure 2.2: Aquaculture production 1997-2006 - Egypt



Source: FAO Fishstat 2009

Most aquaculture is located in the northern and eastern parts of the Nile Delta, using semi-intensive ponds in both brackish and freshwater. Stocking densities, energy input, level of management, and the type of infrastructure varies greatly. Total land area is 64,100 hectares with annual per hectare production of 0.7 to 6 tonnes. However, good returns have attracted many small to middle level investors with a more scientific approach. The sector is becoming more sophisticated and diverse, also associated with rapid expansion of support activities such as feed mills and hatcheries. The number of hatcheries has increased from 14 in 1998 to over 230 in 2003. More than 12 fish feed manufacturing companies have been established during the last eight years.

Intensive pond aquaculture is expanding; these are smaller (0.3 to 0.6 ha) with higher dykes allowing water depths to reach 1.5–1.75 meters. Ponds are aerated with electrical paddle wheels and have a higher rate of water renewal (2–10 % per day). Total production from intensive ponds was 155,000 t or some 35 % of the total in 2003. This used 7,050 ha at an average productivity of 17.5–30 t per ha, mostly tilapia. This sector had seen the greatest expansion most recently, but rising costs and falling market prices have seen margins decrease strongly, and expansion slow down.

Intensive tank aquaculture is also rapidly developing. Concrete tanks are used within integrated aquaculture and desert agriculture systems. Though still small in overall scale there is strong interest as a result of the high rate of return on the utilization of water. There are over 120 registered farms with an annual production of 3,500 tonnes. Other land-based intensive fish farming using tanks is limited to another five farms with a total production of 500 tonnes per year mostly of tilapia.

Cage culture, mainly for tilapia, had been common especially in the northern branches of the Nile Delta. More than 4,428 cages with a total volume of 1.3 million cubic meters were in operation, producing 32,000 tonnes in 2003. However this entire subsector has been closed down latterly due to pollution concerns.

Polyculture in rice fields has also been practiced since the mid 1980s. Output fluctuates with changes in the area dedicated to rice production, which in turn depends on the annual water budget. Polyculture is however increasing once again following price subsidies of fingerlings by the Ministry of Agriculture and Land Reclamation. Total production was 17,000 t in 2003. However, more recent reduction of subsidies has reduced the attraction of adding fish to rice fields.

2.2 Skills, education and support capacity

The rapid development of aquaculture and its support sector has created a large number of jobs. No accurate statistics exist on numbers involved, but four groups can be noted. Land owners and lease holders for traditional farms generally run as family businesses involving all or most family members. These are usually labour intensive with simple infrastructure and production technologies. Most farmers have only a limited education and apply techniques inherited through the generations. Some 35 to 40,000 people are involved. The second group includes those working in hatcheries, cage farms and intensive pond aquaculture, mainly hired staff including trained technicians and skilled labourers; these total an estimated 22,000 persons. The third group, some 780 people, comprises staff working at Government run hatcheries, fry collection stations, juvenile production facilities and fish farms. They have differing levels of education and training, from highly trained experts to unskilled labour. The fourth group includes consultants, feed mill staff, engineers, transport, processing and other support activities. The number of registered consultants is 128 and some 380 people were estimated to work in fish feed production.

A large number of Government research institutions and universities (e.g. Cairo, Ein Shams, Alexandria, Suez Canal, El Azhar, El Mansura, Tanta, Asuit, Zagazig and Upper Egypt) specialize in fisheries research and education. Research commonly focuses on improving production efficiency, with dialogue between research institutions, GAFRD, the Egyptian Aquaculture Society and producers. On farm participation in research is increasingly common. Results are published in scientific journals and in magazines and other

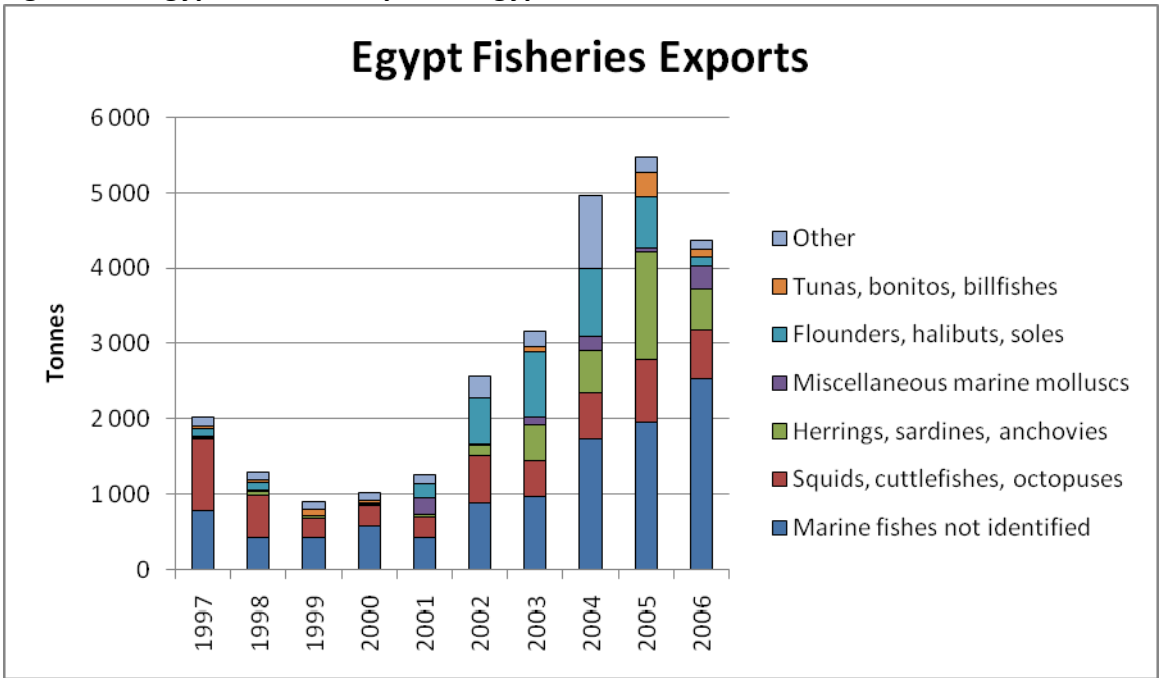
publications, more accessible to farmers, experts and technicians. The GAFRD extension and training directorates publish simple extension papers and also organise and deliver training courses. The CGIAR centre, WorldFish also has a regional centre in Cairo and a major research farm in Abbassa which also has an active national and regional training function.

2.3 Physical and marketing infrastructure

General infrastructure – roads, power, telecommunications, water and sanitation services, are of a relatively good level in most settled parts of Egypt, and in more recently developed desert irrigation areas, infrastructure provision has been an integral element of expansion. A major issue for aquaculture producers is water supply – primarily controlled through irrigation systems, managed at Ministry and Governorate levels, with strict conditions for access by aquaculture. Marketing infrastructure is variable, with decentralised marketing increasingly common, where products move from farms into the hands of processors and wholesalers without utilizing the services of the older, established terminal facilities which exist in the centralized market.

Buying agents of processors, wholesalers and retail firms such as the Egyptian Company for Fish Marketing contact fish farmers and fishermen and take over the products in the production area. On the other hand, the market for marine fish products is characterized by centralization where the products are collected in centralized locations for operations of exchange, standardization, and market information functions by a physical concentration of buyers and sellers and other market agencies. These types of market exist in Alexandria, Cairo and other cities located on the Mediterranean and the Red Sea. Improving the fish marketing infrastructures in Egypt is vital because it is beyond the ability of the small-scale farmer to establish the necessary facilities (wholesale, retail, transportation, storage, ice plant, processing and packing), and therefore, government support is essential.

Figure 2.3: Egypt Fisheries Exports - Egypt



Source: FAO Fishstat 2008

2.4 Legislative framework

2.4.1 For fisheries and aquaculture

Law No 124/1983 on fishing, aquatic life and the regulation of fish farms is the main body of legislation on fisheries. The Act is administered by the General Authority for Fisheries Resources Development (GAFRD), established by Presidential Decree No 190/1983, falling under the Ministry of Agriculture. This Act is composed of 3 Sections divided into 65 articles. Section I deals with General Provisions. Section II provides for water pollution and obstructions to fishing operations. Section III contains aquatic resources and the regulation of fish farms.

Relevant provisions include controls on fishing gear and activity, construction of promontories, artificial reefs, and dams; discharge of factory wastes, insecticides, toxic and radioactive substances; import of aquatic seedstock, and control of land use for aquaculture. Control of access to water resources is exacted through water legislation, administered by the Ministry of Agriculture and Irrigation.

2.4.2 For investment and business enterprise and trade

The government implemented Law 8 of 1997 to help foreign investment by creating a unified and clear package of guarantees and incentives. The Investment Code amended in 1995 has ended pre-incorporation approval and replaced it with a notification requirement for investment, directing investment to targeted economic sectors and promoting decentralization of industry from crowded geographical areas. The law allows full foreign ownership and guarantees the right to remit income earned in Egypt and to repatriate capital. The Egyptian legal system provides protection for real and personal property, but laws on real estate ownership are complex and titles to real property may be difficult to set up.

The Egyptian government strongly encourages foreign investments. For instance, in order to obtain tax deductions, companies have to carry out plans aimed at developing areas such as Sinai, or rural zones. The rate of these tax exemptions depends on the activity of the company and the opportunities of hiring contained in the plans. Egypt appears, from an economical point of view, as one of the most powerful countries in the Arabic world, even though the country meets important economic problems. Egypt has established free trade zones to boost the industrial development of the country such as those at: Nasr City (near the airport of Cairo), Alexandria, Port Saïd (Entrance of the Canal of Suez), Suez (first port in the Red Sea), Ismailia (between Port Saïd and Cairo) and Damiette. Linked to the free trade zones are several advantages granted to foreign investors by the Government.

2.5 Business environment

In 2006, Egypt had an estimated GDP of USD 118 billion, and an annual growth rate of 7.2 %. Per capita GDP in 2007 was estimated at USD 5,400. Egypt has experienced high inflation levels, and the forecast for average inflation in 2008 is 17.1 %, projected to fall to around 10 % in 2009[4]. Doing Business 2009 ranks Egypt 117 out of 181 economies with respect to the ease of doing business, 6th amongst our selected countries. However, it scores better in the fisheries adjusted ranking (Table 2.6), where it ranks with an aggregate ranking of 4thout of the nine countries we are evaluating.

[4] This was prior to the recent global rises in fuel and food prices, which have had strong impact in Egypt

Table 2.6: Doing Business ranking 2009 and Norwegian fishery adjusted score - Egypt

Ease of...	Rank Doing Business 2009	Score adjusted model
Doing Business	117	115
Starting a Business	41	41
Dealing with Construction Permits	165	165
Employing Workers	107	107
Registering Property	85	170
Getting Credit	84	8
Protecting Investors	70	140
Paying Taxes	144	288
Trading Across Borders	24	72
Enforcing Contracts	151	151
Closing a Business	128	13

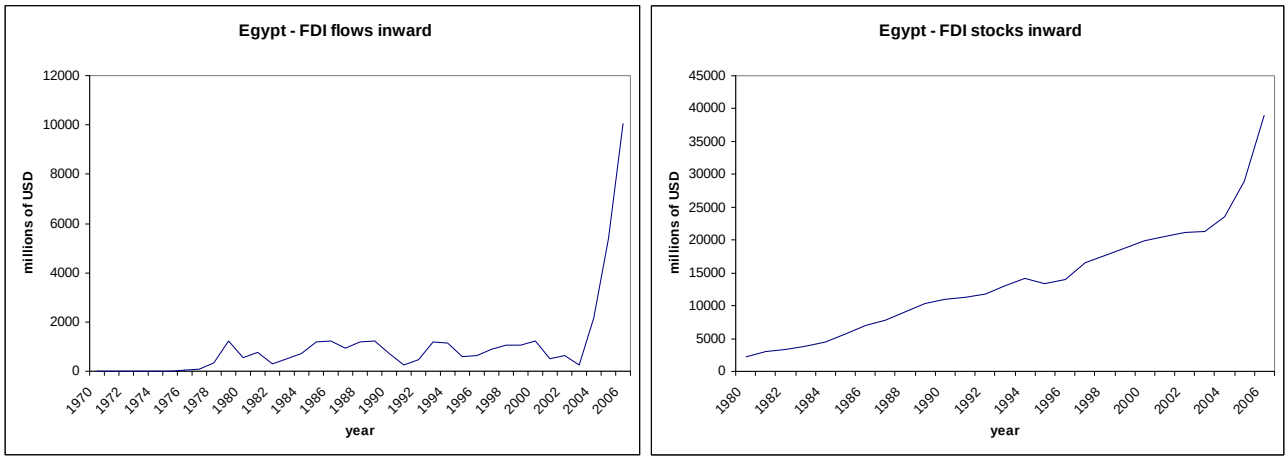
2.6 Foreign investments and trade in fish

Historically petroleum attracted a large bulk of FDI into Egypt, although the privatization and economic liberalization that picked up in the 1990s stimulated FDI in a range of industries such as cement, telecommunications and tourism. In 2006 FDI flow in the primary sector counted for USD 4,934 million, of which , USD 4,905 million were in the petroleum sector (oil and gas), while USD 30 million were in fishing, agriculture, hunting and forestry. FDI in the tertiary sector amounted in 2006 to approximately USD 5,000 million.

FDI continues to be at the heart of the economic strategy for sustaining high growth rates. GAFI, a one-stop shop for foreign investors in Egypt was incorporated into the Ministry of Economy and Foreign Trade in October 1999.

There has been a steep increase in FDI flows. In 2000, total flows were USD 510 million. In 2006, this reached USD 10,043 million, of which USD 4,061 million originated from the EU and USD 4,681 million from the USA. Inward FDI stocks accounted for some 36.4 % of GDP. Egypt has had a stable and positive increase in FDI stocks from 1980 onward (Figure 2.4) that, in 2006, amounted to USD 38,925 million.

Figure 2.4: Inward FDI flows (1970-2007) and stocks (1980-2007) - Egypt

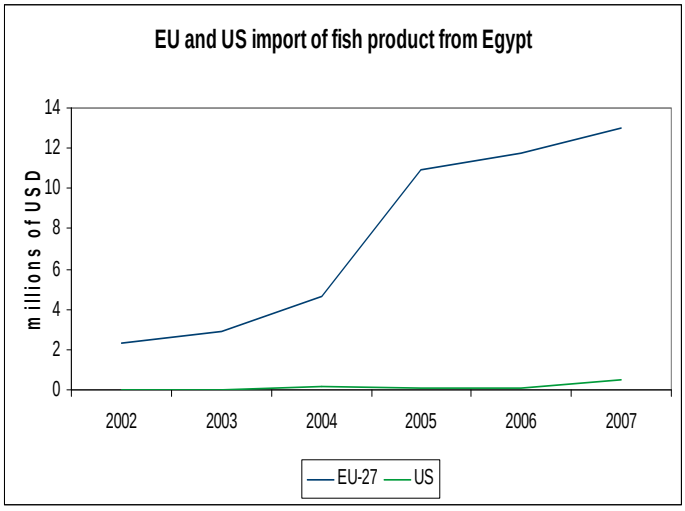


Egypt ranks 2nd in FDI stocks, behind South Africa, while for FDI flows it is by far the biggest receiver in our selection of countries. FDI flow in Egypt is also more stable than for example South Africa.

2.6.1 Foreign trade with fish products

EU imported fish product from Egypt for approximately USD 13 million. US fish import has been more modest, peaking in 2004 at some USD 200,000, then dropping until a more recent peak of around USD 535,000 in 2007. The EU import is shown in figure 2.3, and when compared to Figure 2.5, it can be seen that Egypt was the lowest exporter to the EU among the nine selected countries[5]. Import figures compared to Egypt's domestic consumption of fish are quite high compared to the other selected countries, as there are significant import quantities into Egypt, primarily for lower value species. There is considerable interest nationally in expanding fish sector exports and for adding value.

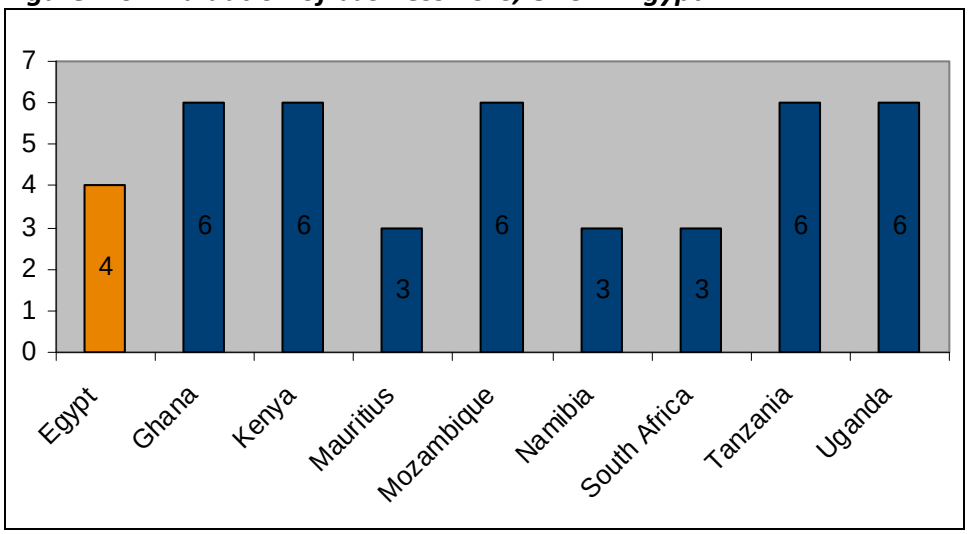
Figure 2.5: Import of fish products to the EU market 2002-2007 - Egypt



Source: UN Comtrade 2008

2.7 Security conditions and evaluation of business risks

Figure 2.6: Evaluation of business risks, OECD - Egypt



[5] When the Comtrade figures are compared to the export value recorded in FAO data (Table 2.3) a disparity arises in that the EU import figures are higher than the exports recorded from Egypt in the same year. This difference in figures is common when using different sources for the information.

According to OECD's classification[6] of June 2008, Egypt is rated at category 4, which has been stable over recent years. This is equivalent to a credit rating of BB to BB+[7].

Social tension is likely to remain high throughout 2008/09, as consumers protest against rising food prices and inadequate salaries. The government's generous wage package for civil servants and increased food subsidies is likely to lead to a worsening of the public finances. ViewsWire ranks Egypt to BB in all their categories, except the economic structure risk where Egypt gets a B.

The ONDD rates the political risk in Egypt 2 on their scale from 1 to 7, 7 being high risk. The commercial risk is rated as a C: high risk.

2.8 Sector SWOT analysis and conclusions

An overview of strengths, weaknesses, opportunities and threats (SWOT) of the aquaculture sector within Egypt is set out below. This is based on a mix of the background materials provided in the earlier parts of the national description, together with more specific information from recent and current trends and development directions. Egypt has a major aquaculture sector, which has grown strongly, but rather like the salmon industry, profits have stagnated following a major expansion phase, primarily based on tilapia production, and a period of consolidation and technical development would be needed to move the sector on towards the levels of output (an additional 300,000t or more) which will be needed to meet domestic (including tourist) consumption requirements, or to generate useful and profitable opportunities for export. Here, export potential is more likely to be for coastal/marine species and there could be specific niche opportunities for semi-wild aquaculture output from coastal lagoons, if well organised.

However, though there are some active and resourceful local entrepreneurs around the sector, and progressive national and regional government agents, there are recognised to be significant challenges in modernising land and water regulation, and the practice of obtaining permits and clearances for natural-resource linked activities is known to be very complex and time-consuming. Furthermore, the major pressures of urban settlements and industrial activities, together with intensification of agriculture has led to worrying instances of pollution, whose resolution will require significant political will and investment. Moreover, recent economic and political events have created more tensions between progressive and traditional approaches, particularly in food production issues.

[6] OECD assess country credit risk and classify countries into eight country risk categories (0 - 7) where 7 is the highest risk category. Country risk, while very similar to political risk, has more to do with a country's socioeconomic and macroeconomic situation, which may at any given time prevent compliance with the contract. Shortage of foreign currency, high external debt, or chronic balance of payments deficits may affect commercial relations with certain countries. Country risk is a major factor in determining whether government financing for exports will be authorised.

[7]

A+,A, A-	The economic environment has been good in the sector and has had a positive influence on the company financial situation. Payment experience has been satisfactory. Default probability has been low on average.
B+, B, B-	In an essentially favourable economic environment nonetheless not safe from short-term deterioration with negative repercussions on the company financial situation, payment behaviour is generally correct and default probability acceptable.
C+, C, C-	In a very uncertain sectoral environment combined with a very vulnerable company financial situation, payment behaviour is relatively poor with default probability disquietingly high.
D	In an unfavourable sectoral environment, a deteriorated company financial situation which is at the root of generally poor payment behaviour. Default probability is high.

Table 2.7: SWOT analysis - Egypt

Strengths	**Weaknesses**
• Large and well established aquaculture industry with range of local skills and technology. • Some specific technical opportunities for improving aquaculture sector. • Producer organisations and infrastructure for training and capacity building. • Some locally produced raw materials for feeds.	• Relatively poorly developed markets and declining margins. • May be difficult to compete for access to domestic raw materials for feeds. • Poorly organised seed supply sector/difficulty of establishing competitive supplies.
Opportunities	**Threats**
• Technical productivity and quality control gains to be achieved – seed, feed, water management, value addition. • Positive government approach to external investment and sector modernisation. • Changing patterns of domestic consumption. • Some export opportunities if linked with high quality product.	• Political and economic pressures, with specific focus on traditional food production. • Contaminants in aquatic ecosystems. • Domestic supply competition from local producer groups.

2.9 Preliminary recommendation for relevant areas for investment potential

To summarise potential areas for development, the following categories could be proposed:

- Major scale agro-industrial development – aiming at 50-100,000 t output or more, based on semi-intensive pond tilapia production with integrated seed, feed and post-harvest links, supplying major markets and premium products for export markets – this would require significant land area and water rights and would need highest level government endorsement. Margins are likely to be very tight, if positive at all, and competition from Asian production could be critical unless tariff or other trade constraints were in place;

- Medium scale development – niche products in export areas, high added value products, inputs (feeds, seed) – possible joint ventures, though Norway's competitive advantage would need careful assessment; and

- Technical supplies and services – a range of Norwegian opportunities, but with limited market values – typically through local agents, etc.

The overall perspective for Egypt however would be that unless there were specific pre-existing business linkages, the potential returns to a foreign business participating in aquaculture growth would probably be insufficient to merit further attention.

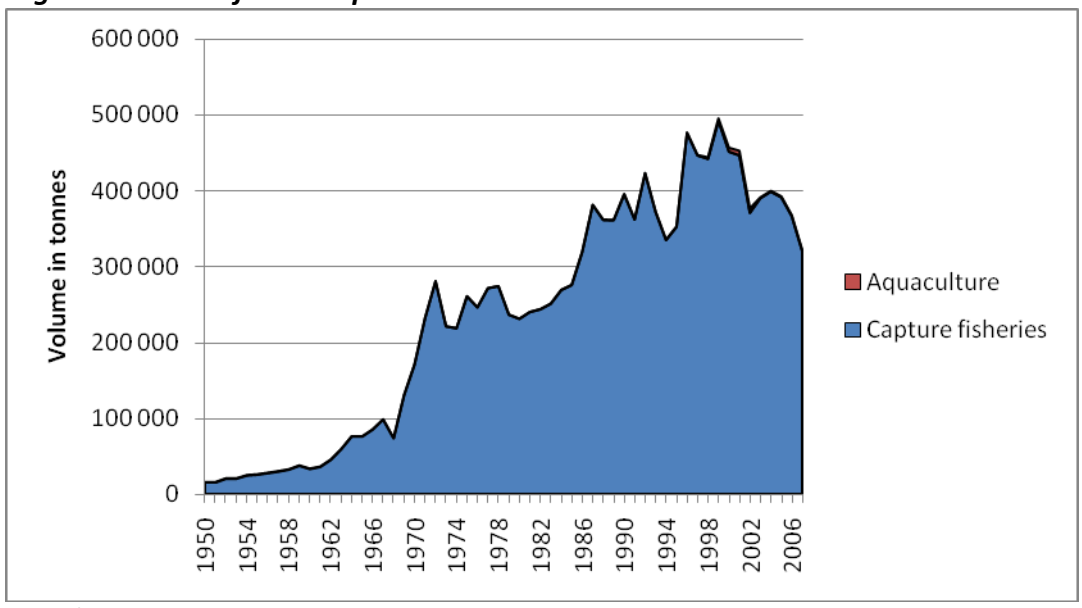
3 Ghana

3.1 Sector description

3.1.1 Fisheries

The marine sub-sector is by far the most important source of local fish production, delivering more than 80 % of total supply. Average annual marine production has been 358,000 t between 1993 and 2000. Over 300 species of commercially important fish, 17 species of cephalopods, and 25 species of crustaceans are caught. Three sub-sectors are defined; small scale, (or artisanal/canoe), semi-industrial (or inshore) and industrial. Most domestic supply is from artisanal fishing and the most important resources are small pelagics especially the round sardinella, flat sardinella, anchovy and chub mackerel. These resources fluctuate significantly but account for about 70 % of total marine fish landed, with an estimated sustainable catch of 180,000 t.

Figure 3.1: Total fisheries production - Ghana



FAO Fishstat 2009

There also large pelagic species of the family Thumidae (tunas) and demersal species of the families Sparidae, Lutjamdae, Mullidae, Pomadasydae, Serranidae, Polynidae and Penaedae. The main commercial tuna resources are yellowfin. *Thunnus albacares*), skipjack (*Katsnwonus pelamis*) and bigeye *Thunnus obesus*). In 2007, the total catch of tunas was over 69,000 t. Estimates of total demersal biomass on Ghana's continental shelf are between 36,000 and 55,000 t per annum with an average of about 43,000 t. However, last decade landings of about 50,000 t annually exceeded the potential yield, which clearly demonstrates the stress under which the fishery has been operating.

Lake Volta is the most important inland fishery; with catches at around 40,000 t, about 16 % of national output. About 140 species are found, but landings are dominated by tilapia species (38.1 %), *Chrysichtys sp* (34.4 %) with smaller quantities of other species.

It is estimated that over 150,000 fishers are engaged in marine capture fisheries and that about 1.5 – 2 million people rely on and /or provide support to these fishers, these include their wives, children, close relatives as well as canoe carvers, input suppliers and office workers for the industrial fleet. It is suggested that about 500,000 fish workers engage in processing, distribution.

Table 3.1: Capture fisheries production - Ghana

Species	2001	2002	2003	2004	2005	2006	2007
Crustaceans	1,858	1,226	1,473	1,307	4,210	2,775	2,040
Diadromous fishes	3,600	5,202	6,435	5,128	5,549	4,660	7,140
Freshwater fishes	74,500	74,500	75,000	75,000	75,000	75,000	75,000
Marine fishes	364,263	286,664	302,362	313,954	304,600	280,472	233,994
Molluscs	2,960	3,649	5,500	4,000	2,508	4,012	2,551
TOTAL	**447,181**	**371,241**	**390,770**	**399,389**	**391,867**	**366,919**	**320,725**

FAO Fishstat 2009 - Volume in tonnes

Table 3.2: Aquaculture production – Ghana

Species	2001	2002	2003	2004	2005	2006	2007
African bonytongue	20	20	.	.	.	.	.
Freshwater fishes	70	70	653	190	200	200	200
Nile tilapia	4,400	4,400	285	760	954	950	950
North African catfish	1,510	1,510	.	.	.	.	.
TOTAL	**6,000**	**6,000**	**938**	**950**	**1,154**	**1,150**	**1,150**

FAO Fishstat 2009 - Volume in tonnes

Table 3.3: Fishery exports – Ghana

	2001	2002	2003	2004	2005	2006
Tonnes	60,236	45,338	45,983	47,877	35,907	24,062
USD 1000	83,513	76,255	120,460	93,785	97,439	51,956
Average value (USD/kg)	1.39	1.68	2.62	1.96	2.71	2.16

FAO Fishstat 2009

Table 3.4: Fishery imports– Ghana

	2001	2002	2003	2004	2005	2006
Tonnes	174,317	230,054	109,875	279,518	269,173	302,012
USD 1000	92,308	125,347	58,357	116,773	190,725	125,321
Average value (USD/kg)	0.53	0.54	0.53	0.42	0.71	0.41

FAO Fishstat 2009

Table 3.5: Fisheries commodities production – Ghana

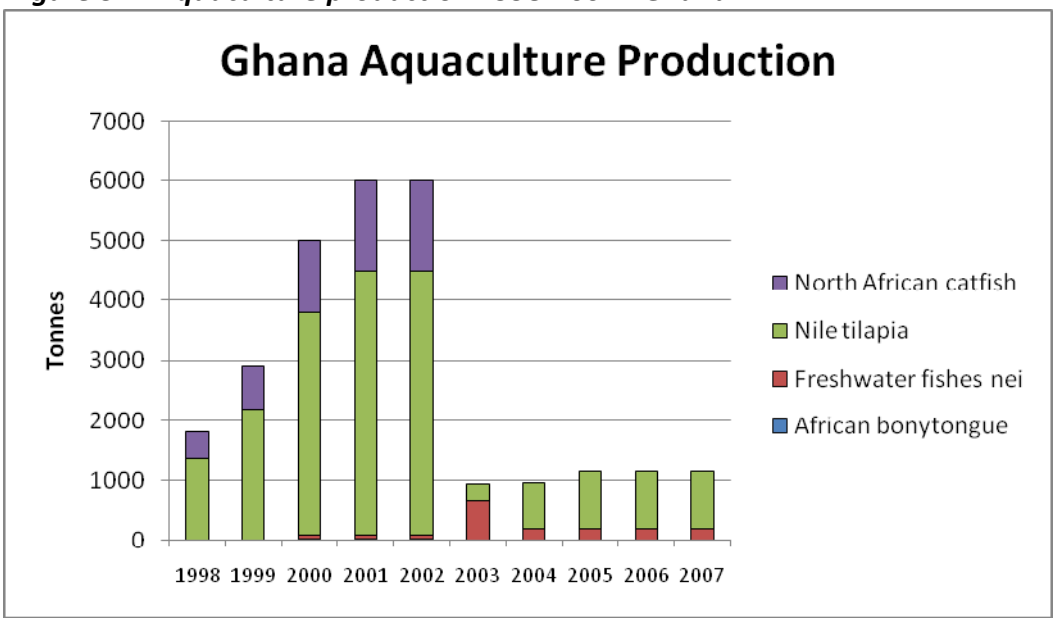
Commodity	2000	2001	2002	2003	2004	2005	2006
Crustaceans and molluscs	1,800	2,800	3,600	5,500	2,200	2,800	2,800
Fish, canned	25,052	27,010	25,301	25,535	28,318	11,866	5,868
Fish, dried, salted, or smoked	52,175	53,020	50,000	49,445	49,000	48,077	48,088
Fish, fresh, chilled or frozen	53,583	52,822	44,530	41,260	43,949	42,722	45,932
TOTAL	**132,610**	**135,652**	**123,431**	**121,740**	**123,467**	**105,465**	**102,688**

FAO Fishstat 2009 - Volume in tonnes

3.1.2 Aquaculture

The government has recently focused on aquaculture to meet the major deficit in Ghana's fish supply, though its outputs are significantly lower than national shortfall. Tilapia is the major species farmed and constitutes over 80 % of production. The catfishes (*Clarias sp*., *Heterobranchus sp*.) and *Heterotis niloticus* account for the remainder. Annual output was estimated at just over 1,100 t in 2006 (Figure 3.2).

Figure 3.2: Aquaculture production 1998-2007 - Ghana



Source: FAO Fishstat 2009

Several systems are used, varying from intensive (commercial), to semi-intensive and extensive, with the latter two most common. Some farmers rely wholly on natural productivity of their ponds while others use agricultural by-products. Artificial feeds are used in variable ways with wide ranges in performance. Aquaculture is being promoted in at least 7 of the 10 regions of Ghana, with the highest concentration of fish ponds in the Greater Accra and Ashanti Regions. Available data suggests that there are at least 2000 ponds in Ghana covering about 240 hectares. Recent reviews confirmed that most smaller scale farmers were only marginally profitable if at all, but commercial farms were potentially more viable. Supply of good quality seed and fingerlings has been noted as a key constraint.

Interest in cage culture is increasing, particularly but not only in Lake Volta, and more commercial aquaculture becoming more recognised. A very significant recent development has been the proposal for large scale production with Chinese investment to serve domestic and international markets.

3.2 Skills, education and support services

Primary and junior secondary school education is tuition-free and mandatory. Article 39 of the constitution mandates the major tenets of the free, compulsory, universal basic education (FCUBE) initiative. Launched in 1996, it is one of the most ambitious pre-tertiary education programs in West Africa. Since the early 1980s, Government expenditures on education have risen from 1.5 % to nearly 3.5 % of GDP. Since 1987, the share of basic education in total education spending has averaged around 67 %. Ghana is home to five public and twelve private universities along with ten public polytechnics offering the UK Higher National Diploma (HND), a three-year tertiary system in applied study. There are also approximately forty teacher-training colleges and fifteen nurses' training colleges.

At the fishery sector level there are 46 BSc level professional officers in the fisheries sub sector of the Ministry of Food and Agriculture, 29 with specialist postgraduate training in aquaculture, dedicated to aquaculture duties. Ten have BSc's and eight have MSc's. in various aspects including shrimp culture and hatchery management. Other staff dedicated to aquaculture are high school graduates, four of whom

have obtained diplomas in aquaculture from universities. A survey carried out in 2003 by the Directorate of Fisheries covering 77 out of 110 administrative districts identified 709 small-scale fish farmers, with about 9 % having 1-6 years of education, 10 % completing secondary school 8 % having been to university, while 10 % had no formal education. Male fish farmers were generally better educated than the women. These results could be a reflection of the situation and characteristics of fish farmers in the whole country.

Fisheries research is carried out mainly by the Marine Fisheries Research Division (MFRD), which:

- Monitors the marine environment and assesses changes which affect fisheries;
- Estimates annual fish production by various fleets operating in marine waters;
- Undertakes biological studies of commercially important fish species;
- Assesses stocks of demersal pelagic resources; studies and develops fishing gears;
- Provides information for preparation of the fisheries management plans; and
- Collaborate with sub-regional, regional and international organisations in the study and management of shared fish stocks.

Research priorities are set by the Water Research Institute (WRI) through consultations internally and with other stakeholder's International donors fund certain research activities and farmers give suggestions through research extension linkage committees. A private commercial fish farmer serves on the WRI management board. On-farm participatory research in Integrated Agriculture Aquaculture (IAA) is currently under way, with on-farm trials on feed. Research results are verified through field trials in collaboration with the DoF, and transmitted through the DoF at meetings and workshops where farmers and representatives from the WRI are also present. The WRI is the only aquaculture research institution, although the universities also carry out some research. There are no private research institutions. Training in aquaculture is available at three universities and an agricultural college. None of the technical schools offer aquaculture training.

3.3 Physical and marketing infrastructure

As a relatively prosperous and stable country, Ghana has been able to invest in and maintain a relatively good level of physical infrastructure, with good quality roads, power supplies (with major investment associated with the Lake Volta project) and telecommunications, particularly in the more populated southern and western parts of the country. Port facilities are relatively modern and airport communications relatively good by regional standards, though cargo capacity is not rather limited. Except for particularly remote locations, infrastructure constraints are not usually problematic.

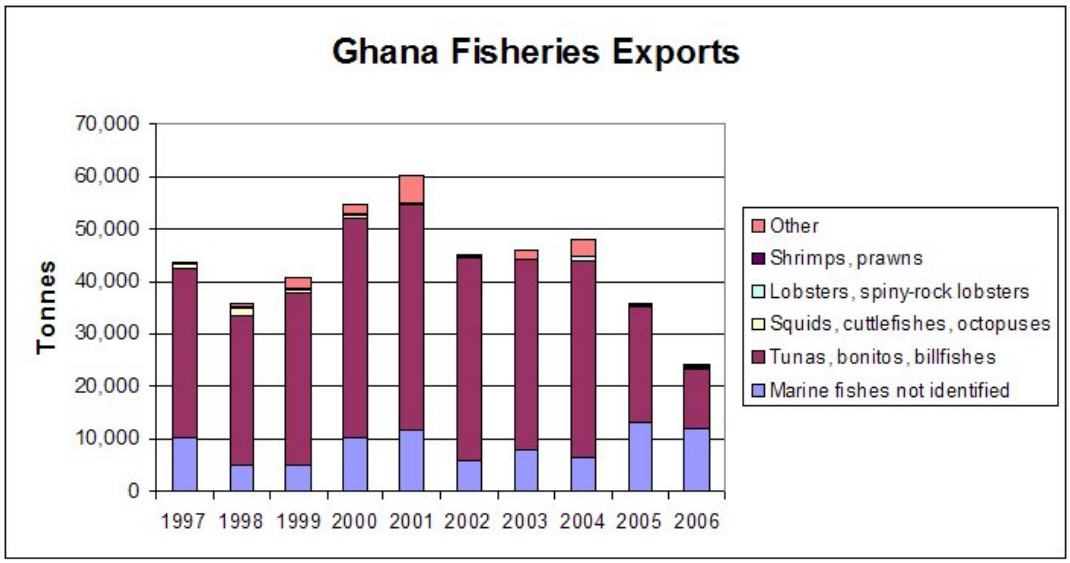
Currently, annual production of fish averages about 320,000 t, with wide annual and seasonal fluctuations. While, the annual fish requirements is estimated at 880,000 t, implying an annual fish deficit averaging 560,000 t. The gap is filled partly through imports. Frozen horse mackerel (*Trachnrus trachurus*), chub mackerel (S*comber japonicus*) and sardinella are imported through the Tema and Takoradi Ports and distributed through internal trade channels, during the lean season November to May. Dentex species (used in the poultry industry) are also imported to a lesser degree. Fish imports to Ghana are mainly from Morocco, Mauritania, Namibia, Norway, the Netherlands, Belgium, Senegal and the Gambia. In 2006, Ghana imported USD 125 million worth of fish, including USD 76 million of frozen mackerel and USD 22 million of frozen sardines. Figures for 2007 indicate that Ghana imported 212,950t of fish valued at USD 262 million.

Fish smoking is traditionally carried out by women in coastal towns and villages, along river banks and on the shores of Lake Volta. Efforts are being made to improve traditional methods of smoking, salting and drying. The main species smoked traditionally are the anchovies, sardinella, chub and horse mackerels. In 2002, the quantity of smoked fish exported was 5,312 t with a value of USD 4,380,199. However, in 2006 exports of smoked fish had declined to just 142 t.

It is estimated that up to 12 % of total fish product is exported, with a consistent rise in exports over the

years. Key markets are the EU – particularly Spain, Portugal and Greece; Japan, USA, Canada, Hong Kong and Singapore, and more regionally, Togo, Mali, Cote d'Ivoire, Burkina Faso, Benin, and Nigeria. Fish have remained among the top three non-traditional exports, with tuna the most important product. Exports include high value tuna (whole, loins and canned), frozen fish (mostly demersal species), shrimps, lobsters, cuttlefish and dried and smoked fish. Canned tuna is by far the most important non-traditional foreign exchange earner, greatly exceeding fresh tuna exports. Seafood exports were over 24,000 tonnes in 2006 for a total value of USD 52.0 million (Figure 3.3).

Figure 3.3: Fisheries export 1997-2006 - Ghana



Source: FAO Fishstat 2008

According to Ghana's minister of fisheries, from mid-2008, Ghana will harvest and process tuna in large quantities for export to European markets under the 'Phenegan project'. The Netherlands government had given a EUR 1 million grant to start up this project. The project aims to link fish traders from two Dutch fishing towns, exporters from Ghana (including a Spanish fish factory, West Africa Fishery, which will act as a centre for air transport to the Netherlands), fishermen's associations and a local NGO, plus a Philippino partner to train the Ghanaian fishermen in sustainable fishing methods. Fishermen will use hook and line instead of nets; tuna caught with hook and line can be stored and marketed fresh, generating much more revenue than canned tuna. Local fishermen using fibreglass canoes will catch the fish, served by a mother ship with on-board refrigeration that will transport the canoes outside coastal waters. The programme also entails measuring and monitoring the economic effects, both at micro-level (the income of the fishermen) and at macro-level. The results will feed into a broader study concerning the possibility of developing and supporting sustainable fisheries in the entire West African region

3.4 Legislative framework

3.4.1 For fisheries and aquaculture

The Fisheries Act of 2002 (Act 625) is the main instrument governing the practice of aquaculture. The relevant sections are: Section 60, on licences for aquaculture and recreational fishing, which stipulates that a licence is required for an aquaculture project, an application for which must be made to the Fisheries Commission and accompanied by an environmental impact assessment. Section 93, i.e. the requirement for a Fisheries Impact Assessment: Subsection (1) makes it compulsory for anyone undertaking any activity other than fishing, likely to have a substantial impact on fishery or other aquatic resources, to inform the Fisheries Commission prior to its commencement. Subsection (2) empowers the Commission to prepare or commission reports and make recommendations in planning the activity and developing means of preventing or minimizing adverse impacts. Subsection (3) adds that this is additional to any other requirements of the Environmental Protection Agency.

Section 139 stipulates that the Minister may, on recommendation of the Commission and by law, establish regulations relating to aquaculture. This option has yet not been used. The Act is not explicit on legal rights, protection against other resource users and ownership and tenure. It does not contain anything on fish health, quality assurance or product safety.

In exercise of powers conferred on the Minister responsible for the environment under section 28 of the Environmental Protection Agency Act 1994 (Act 490) i.e. L.I. 1652, and on the advice of the Environmental Protection Agency Board, regulations were made for conduct and submission of environmental reports and impact statements. Schedule 2, regulation 3 prescribes land-based aquaculture as one of the undertakings for which an environmental impact assessment (EIA) is mandatory. Schedule 5, regulation 30(2) regulates activities associated with fish cage culture. It characterizes water trapped for domestic purposes, water within controlled and/or protected areas and that water which supports wildlife and fishery activities as environmentally sensitive areas the use of which is governed by EIAs.

3.4.2 For investment and business enterprise and trade

The Companies Code 1963, The Partnership Act 152, The Business Name Act 1962 and The Ghana Investment Promotion Act (Act 478, The Free Zones Act (Act 504), establish the general legal framework for the setting up of business, and for investing in Ghana. A growing numbers of foreign investments have been seen due to the adoption and implementation of sound macroeconomic policies and the enactment of more liberal investment legislations. These legislations seek to free the investor from bureaucratic constraints and provide facilitating mechanisms to reduce costs associated with delays in implementing projects.

3.5 Business environment

Ghana had a GDP in 2006 of USD 12.5 billion, and real GDP growth rate of 6.2 %. The inflation rate in 2006 was 6.2 %, and per capita GDP was USD 540. The Doing Business 2009 ranked Ghana 87 out of 181 economies. In our model adjusted for the characteristics of Norwegian internationally focused aquaculture and processing industry, Ghana scores 99, which places it 3rd after Mauritius and South Africa within the nine countries being studied. Compared to other selected countries, Ghana scores second best with regard to trading across borders, and above average with regard to registering property, protecting investors and enforcing contracts. It scores below average with regard to getting credit, though this is not an important prerequisite for Norwegian businesses establishing abroad.

Table 3.6: Doing Business ranking 2009 and Norwegian fishery adjusted score - Ghana

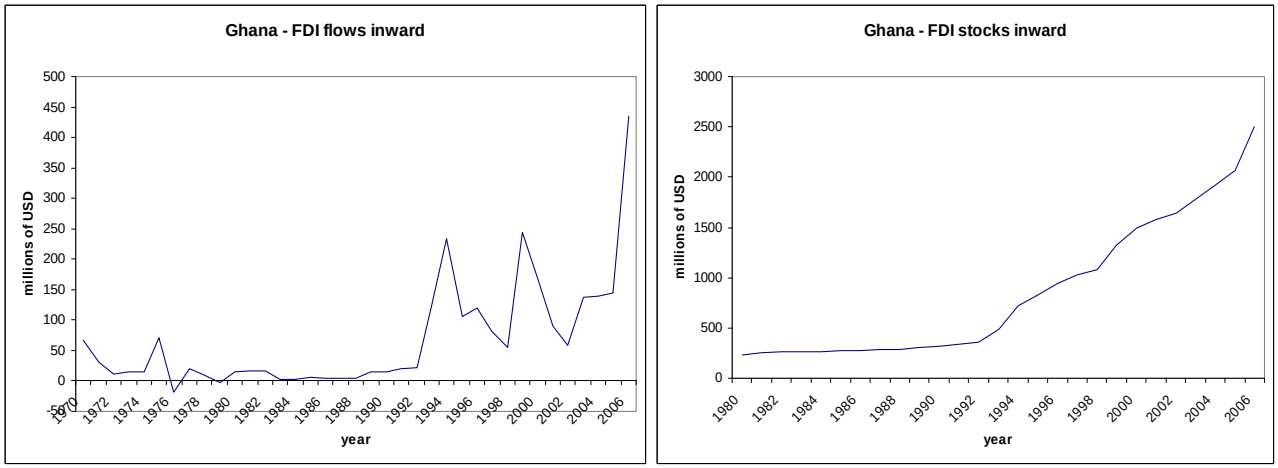
Ease of...	Rank Doing Business 2009	Score adjusted model
Doing Business	87	99
Starting a Business	137	137
Dealing with Construction Permits	142	142
Employing Workers	145	145
Registering Property	31	62
Getting Credit	109	11
Protecting Investors	38	76
Paying Taxes	65	130
Trading Across Borders	76	228
Enforcing Contracts	50	50
Closing a Business	104	10

3.6 Foreign investment and trade in fish

Inward FDI stocks counted for 19.4 % of GDP in 2006, with Denmark and USA as the two biggest contributors, with USA as the biggest with USD 237 million. Ghana experienced a drop in inward FDI flows in the early 2000s, but this increased steady since 2003. In 2006, inward FDI flows amounted to USD 434.5 million. The annual average inward FDI flows 2003-2006 were USD 213.8 million. A less volatile picture of the same trend is shown using the FDI stocks. The inward FDI stock has been rising steadily since the early 1980s and in 2006; the inward FDI stocks amounted to USD 2,497 million.

A sharp increase in the FDI flows was evident from the mid 90s and onwards (Figure 3.4). This can partly be explained by the implementation of the country's Free Zone Act (FZA) which created attractive packages of incentives for problem-free business operation for exporting firms. These incentives amplify business in what is already a centre for international business. The FZA allows production, manufacturing, and services, including financial services, exemption from taxes on profits for 10 years; up to 30 % of the annual production can be sold in the national customs zone; a foreign investor may take hold of 100 % of shares in Free Zone property; income tax after 10 years does not exceed 8 %; and foreign and domestic investors have equal status.

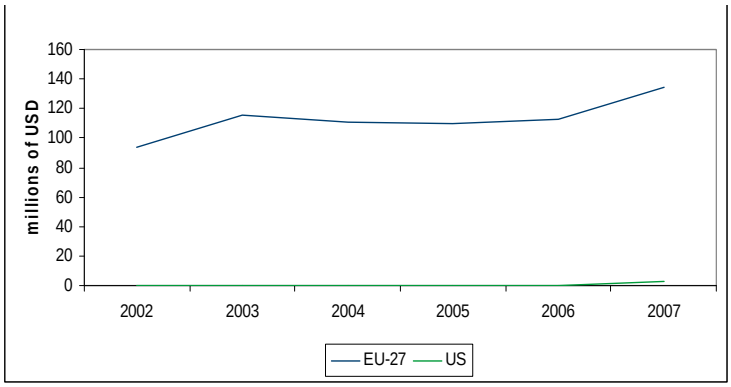
Figure 3.4: Inward FDI flow and stock - Ghana



Source: UNCTAD 2008

Ghana has had a sustained high export of different fish products in the 2000s to the EU-27. According to the Comtrade statistics the export from Ghana to EU-27 has increased from approximately USD 94 million in 2002, to some USD 13 million in 2007.

Figure 3.5: EU import of fish products from selected African countries, 2002-2007- Ghana



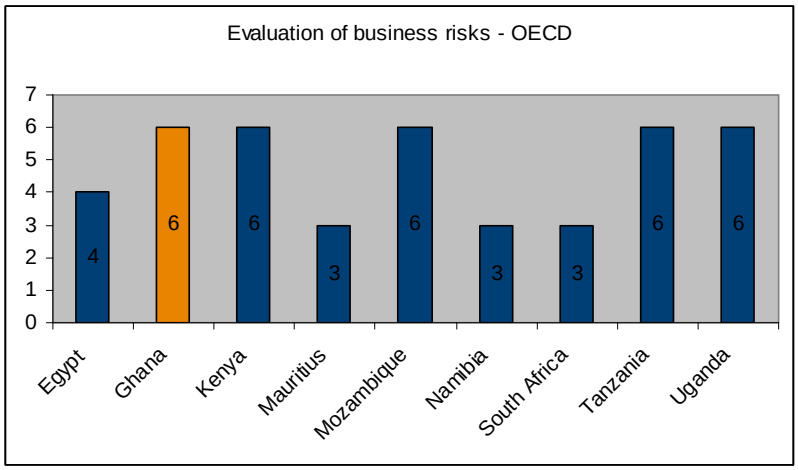
Source: UN Comtrade 2008

EU's import of fish products from Ghana have increased moderately the last years (Figure 3.5) and that the value of Ghana's exports is approximately USD 130 million. This is substantially higher than the

import from countries like Egypt, Kenya and Uganda, but less than the import from Mauritius, Namibia and South Africa.

3.7 Security conditions and evaluation of business risks

Figure 3.6: Evaluation of business risks, OECD - Ghana



In OECD's evaluation of political and commercial risks for June 2008, Ghana gets classified as 6. This classification is equivalent to a credit rating of B or B-. According to ViewsWire, the political risk of Ghana is classified as BB, while the currency risk, banking sector risk and country risk are classified as B.

The ONDD rates Ghana 3 on their scale from 1 to 7, where 7 being high risks. The commercial risk in Ghana is rated to a C; high risk.

3.8 Sector SWOT analysis and conclusions

The prospects for Ghana are rather variable, as outlined below. There are substantial coastal and marine resources with a well developed export sector, but much of this is already tied up in existing business arrangements, and although there are likely to be value-added opportunities, the thresholds for shifting activities or getting product may be relatively high, as existing businesses are adequately profitable. However, the traditional exports links and Ghana's generally good reputation as a product source as well as a stable economy and business location may merit further exploration. The example of the Phengan project may be considered for wider application.

Table 3.7: SWOT analysis - Ghana

Strengths	**Weaknesses**
• Large and well established aquaculture industry with range of local skills and technology. • Some specific technical opportunities for improving aquaculture sector. • Producer organisations and infrastructure for training and capacity building. • Some locally produced raw materials for feeds.	• Relatively poorly developed markets and declining margins. • May be difficult to compete for access to domestic raw materials for feeds. • Poorly organised seed supply sector/difficulty of establishing competitive supplies.
Opportunities	**Threats**
• Technical productivity and quality control gains to be achieved – seed, feed, water management, value addition. • Positive government approach to external investment and sector modernisation. • Changing patterns of domestic consumption. • Some export opportunities if linked with high quality product.	• Political and economic pressures, with specific focus on traditional food production. • Contaminants in aquatic ecosystems. • Domestic supply competition from local producer groups.

The aquaculture sector would appear to offer strong opportunities, particularly in meeting domestic demand, for which a total annual shortfall of up to 400,000 t had been projected. Of this however, perhaps 30 % or less might be in the potential price range where aquaculture might be able to supply product from local sources. A mix of producers are currently involved, mainly producing Nile tilapia, for which there is a good level of preference, though African clarias catfish are also produced and are well appreciated. A small number of more commercial producers appear to be profitable, but many artisanal farmers are very marginal, with poorly developed market links. The cage culture sector is only recently developed, but Lake Volta in particular has significant potential. Quality of seed and feed are often poor, at least variable, and need to improve; there is increasing interest amongst local commercial groups in doing so. The development of aquaculture has also recently been galvanised by the announcement of plans for a major Chinese backed investment for several thousand tonnes of production, either in intensive ponds or cages.

3.9 Preliminary recommendation for relevant areas for investment potential

Ghana is widely regarded as a safe and reliable location for business in West Africa, with a range of regional business activities in addition to serving its own growing economy. As such, the combination with good resources and existing export links makes it a good development prospect, though that view is shared by others, and some competition from other external investors could be expected. The nature of opportunities could be broadly categorised as:

- Medium-large scale aquaculture development – 5-20,000t output, based on tilapia and catfish, with seed and feed integrated and possible linkages with satellite producers for better organised domestic markets and possible export;
- High quality export development from accredited sustainable marine capture fisheries – perhaps 2-5,000t, to niche markets, possibly with local network and fair trade features (see also the Ghana cocoa industry); and
- Regional base for fishery/aquaculture sector products and services – seed, feed, cage and pond intensification systems, quality control and accreditation services.

There is a broad prospect over the coming decade for growth and clustering of fisheries/aquaculture output, value addition and expertise in Ghana, and so it is a good prospect for further assessment.

4 Kenya

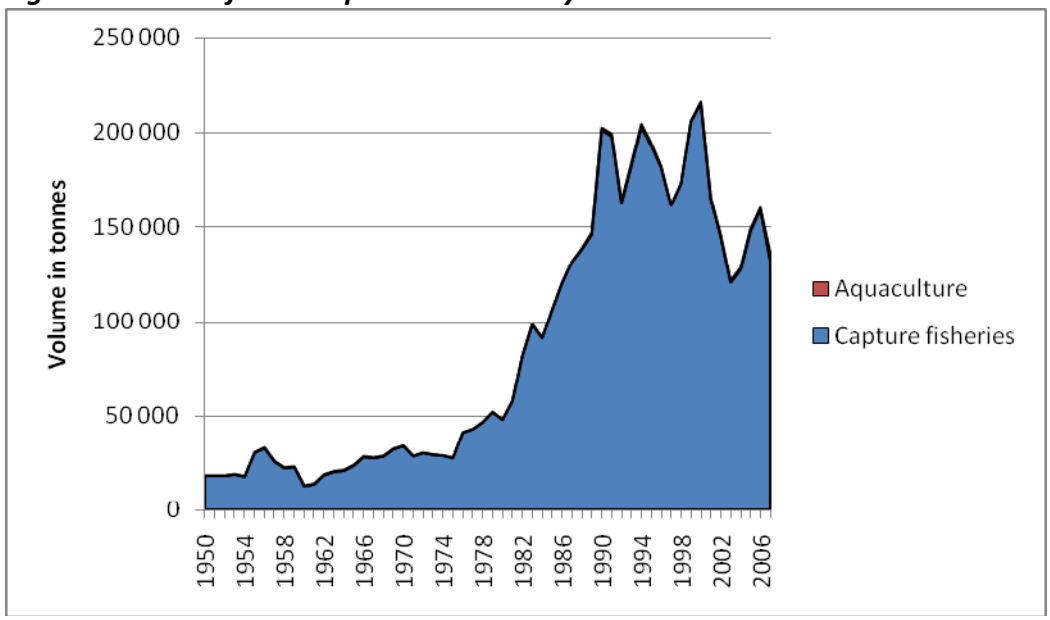
4.1 Sector description

4.1.1 Fisheries

The country's marine capture fisheries potential is estimated at 150,000 t, but the current national production averages 7,500 t which is about 5 % of this. This quantity is very low despite Kenya having a 640 Km coastline with 200 nautical miles of the Exclusive Economic Zone (EEZ). Its coast is also located within the richest tuna belt in the Indian Ocean; much of this tuna resource is caught by distant water fishing nations (DWFN).

In spite of marine fisheries potential, Lake Victoria continues to dominate output, accounting for over 90 % of catch while marine fishing accounts for only 4 %, with other inland lakes and rivers (3 %) and aquaculture (1 %). Kenya claims 6 % of Lake Victoria's area, with 43 % held by Uganda and 51 % by Tanzania. Across the national sector, fishing is mostly carried out by artisanal fishers operating small fishing boats. Kenya's annual average production for 2003 - 2007 was 139,000 t. The inland species include: Alestes, Bargus, Barbus, Clarias, Rastrineobola, Haplochromis, Labeo, Lates, Momyrus, Proptopterus, Schilbe, Synodontis, and Tilapia. Marine fish species include: Rabbit Fish, Scavenger, Snapper, Parrot Fish, Surgeon Fish, Unicorn Fish, Grunter, Pouter, Black Skin, Goat Fish, Steaker, Rock cod, Mullets, Barracudas, King Fish, Sail Fish, Bonitos / Tunas, Mixed Pelagics and crustaceans.

Figure 4.1: Total fisheries production - Kenya



FAO Fishstat 2009

Table 4.1: Capture fisheries production - Kenya

Species	2001	2002	2003	2004	2005	2006	2007
Aquatic animals	13	68	27	28	19	18	17
Crustaceans	1,039	944	775	1,228	461	436	638
Diadromous fishes	67	112	29	34	36	33	34
Freshwater fishes	156,693	137,666	113,173	119,038	140,143	151,678	124,264
Marine fishes	6,106	5,439	5,733	6,213	6,212	6,103	6,399
Miscellaneous aquatic animal production	260	271	265	198	207	211	198
Molluscs	233	283	314	326	433	416	413
TOTAL	**164,411**	**144,783**	**120,316**	**127,065**	**147,511**	**158,895**	**131,963**

FAO Fishstat 2009 - Volume in tonnes

Table 4.2: Aquaculture production – Kenya

Species	2001	2002	2003	2004	2005	2006	2007
Common carp	70	52	64	67	71	68	338
Nile tilapia	412	421	600	614	622	609	2,965
North African catfish	304	202	319	320	318	302	890
Penaeus shrimps	-	<0.5	<0.5	.	.	.	.
Rainbow trout	223	123	29	34	36	33	47
Trouts	-	-	-	-	-	-	-
TOTAL	**1,009**	**798**	**1,012**	**1,035**	**1,047**	**1,012**	**4,240**

FAO Fishstat 2009 - Volume in tonnes

Table 4.3: Fishery exports – Kenya

	2001	2002	2003	2004	2005	2006
Tonnes	18,585	24,622	20,240	18,545	11,067	15,532
USD 1000	49,181	56,263	57,706	53,142	60,381	55,798
Average value (USD/kg)	2.65	2.29	2.85	2.87	5.46	3.59

FAO Fishstat 2009

Table 4.4: Fishery imports– Kenya

	2001	2002	2003	2004	2005	2006
Tonnes	18,162	12,796	16,427	22,479	23,056	35,752
USD 1000	5,219	2,955	3,474	5,112	7,253	8,391
Average value (USD/kg)	0.29	0.23	0.21	0.23	0.31	0.23

FAO Fishstat 2009

Table 4.5: Fisheries commodities production – Kenya

Commodity	2000	2001	2002	2003	2004	2005	2006
Crustaceans and molluscs	526	593	589	578	613	366	323
Fish, dried, salted, or smoked	27,075	27,006	25,428	24,459	25,514	18,528	15,697
Fish, fresh, chilled or frozen	33,415	35,570	35,991	34,081	36,553	40,566	29,190
TOTAL	**61,016**	**63,169**	**62,008**	**59,118**	**62,680**	**59,460**	**45,210**

FAO Fishstat 2009 - Volume in tonnes

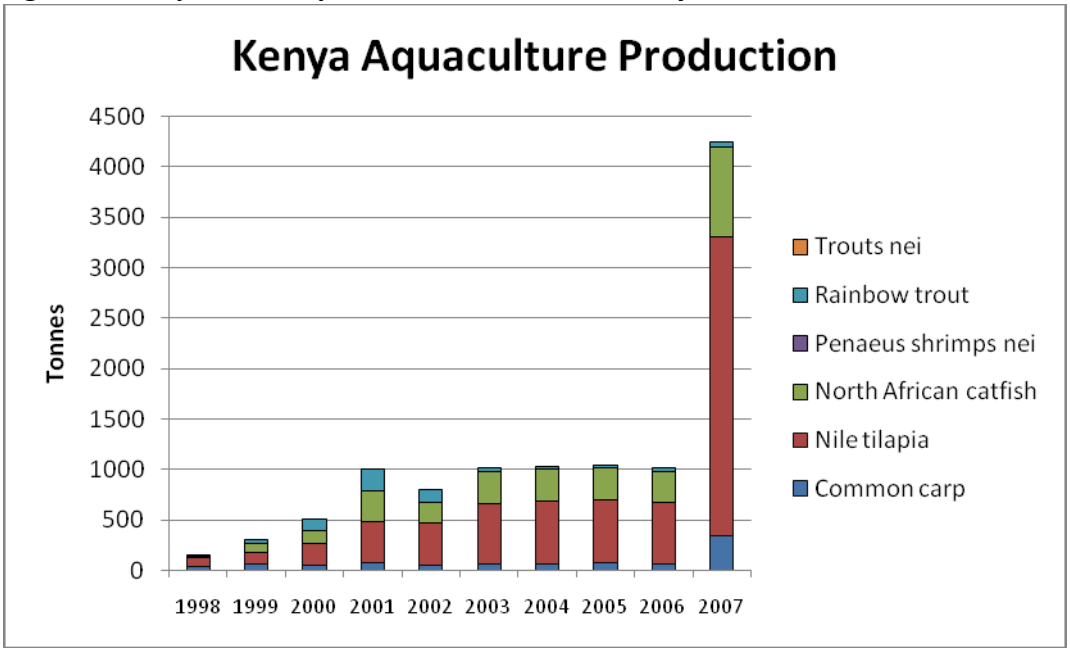
4.1.2 Aquaculture

Until ten years ago, aquaculture in Kenya had stagnated at an annual level of around 200 t. This was further exacerbated by poor extension services and inadequate reporting and documentation. Since 1999, however, efforts in on-farm research and training had increased output to almost 1,000 t in 2006 and then jumped to well over 4,000t in 2007. The main species cultured is Nile tilapia (Figure 4.2).

The focus is now on encouraging the development of private, commercial large-scale aquaculture. This follows efforts of the Department of Fisheries to promote aquaculture as a means to eradicate poverty and hunger.

About 90 % of farmed fish are tilapia species, commonly in polyculture with the African catfish (*Clarias gariepinus*) to control the prolific breeding of the former. Intensive, semi-intensive and extensive systems are used, though most are semi-intensive, contributing more than 70 % of total production. There are few Intensive systems and hyper-intensive systems are also being set up. These are projected to contribute as much as 90 % of all farmed fish in Kenya by both volume and value, but the realism of this projection is questionable, as such systems are usually high cost options.

Figure 4.2: Aquaculture production 1998-2007- Kenya



Source: FAO Fishstat 2009

4.2 Skills, education and support services

There has been a relatively good educational infrastructure with good levels of literacy, secondary enrolment and tertiary education. However, indicators of education levels in Kenya had been declining the last decade, particularly in rural areas, but are now showing signs of positive change. Skill levels associated with fisheries and aquaculture are variable – artisanal fishers and market operators in rural areas tend to have limited access to improved approaches, but rural aquaculturists have had the benefit of a range of development support initiatives. In sectoral research, priorities are said to be demand driven. In aquaculture the Government aims to support responsive applied and farmer-participatory research for small- and medium-scale commercial farmers and provide access to services for large-scale, capital intensive producers on a contract basis. NGOs fund research, evaluate and disseminate results when appropriate, and contribute towards setting research agendas.

The major Government Aquaculture Research Institutions are:

- Sagana Fish Farm at Sagana, Kirinyaga District, Central Province.

- Kiganjo Trout Farm at Sagana, Nyeri District, Central Province.
- Moi University, Department of Fisheries, Eldoret, Uasin Gishu District, Rift Valley Province.
- Kenya Marine and Fisheries Research Institute, Mombasa District, Coast Province.

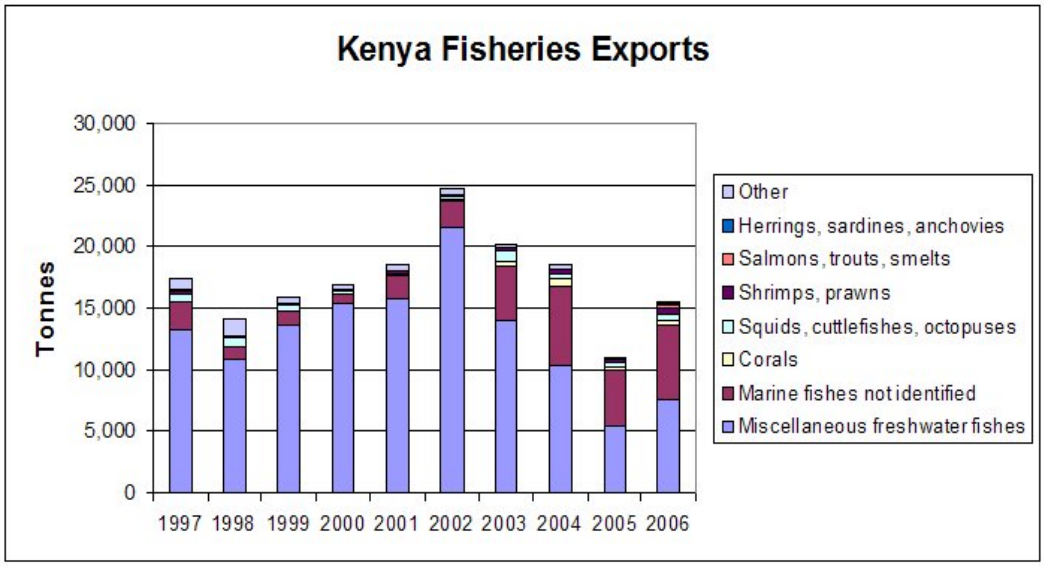
Moi University offers a MSc and a PhD degree in Fisheries with an Aquaculture option. A diploma in Aquaculture can be obtained from the Kenya Wildlife Training Institute at Naivasha. Other short courses in aquaculture are offered by the Department of Fisheries at Moi University.

4.3 Physical and marketing infrastructure

Kenya has a relatively good physical infrastructure in its major urban centres, with reasonable quality road networks, and a rail link with the major port facilities in Mombasa. There are 17 industrial fish processing companies in Kenya all of which are export oriented and can be classified as either land based establishments or water-based freezer vessels. These companies mainly produce frozen and chilled fish for export to European and other non-European markets. These companies deal in different fish species including Nile Perch, prawns, lobsters, octopus, cuttlefish and squids.

The 17 industrial fish processors in Kenya have an installed capacity of 437 t per day of which only 213 t is utilized. Kenya export 12 - 15 % of the total fish production where the Nile Perch accounts for a large proportion of the total fish exports followed by the tuna (Figure 4.3). The total value of fisheries exports in 2006 was USD 55.798 million.

Figure 4.3: Fisheries exports 1997-2006 - Kenya



Source: FAO Fishstat 2008

It is estimated that the total number of people employed in the commercial fisheries sector is around 27,000 distributed between sea and shore-based activities. In addition to these, it is estimated that another 60,000 people find employment in ancillary industries or sectors, such as market for supply of stores, equipment and services.

4.4 Legislative framework

4.4.1 For fisheries

The Fisheries Department of the Ministry of Livestock & Fisheries Development is the national institution mandated to manage the sector. Basic fisheries legislation is set out in six parts and 26 sections of the Fisheries Act 1989 (Act No. 5 of 1989; revised 1991). This applies to marine and inland fisheries, and empowers the Director of Fisheries, with the approval of the Minister, to issue regulations to promote

the development of fisheries and aquaculture and ensure proper management of specific fisheries. The Act further establishes bases for:

a) Registration of fishing vessels (obligation of registration of fishing vessels and definitions of governing conditions);
b) Licensing provisions, including those for local and foreign vessels;
c) Offences and enforcement (defines specific offences and penalties) including prohibited methods of fishing, and trade and commerce of fish illegally caught; and
d) General provisions (miscellaneous), including prohibition on fishing for marine mammals, and specification of Minister's powers to make regulations (e.g. to organise and regulate marketing and distribution of fish; establishment of credit schemes, etc.).

The sector has been operating without any formal or conventional fisheries policy except for the Fisheries Act and its subsidiary legislation, which has served as both policy and legislative framework. This has caused inconsistencies in fisheries management, and limiting the achievement of national and international obligations and responsibilities. This necessitated the Government to initiate policy development and drafting in 2003 but this has been hindered by inadequate financial resources. This is now being taken up more actively, to develop the first comprehensive blueprint for sustainable fisheries management, guiding the sector in line with the new Government policy for Economic Recovery Strategy and creation of Employment (ERS) and Poverty Reduction Strategy (PRS). A collaborative formulation process has been adopted, with a broad approach of stakeholder engagement, advice and feedback. FAO is providing technical assistance. The first phase has been completed, highlighting the critical areas to be covered and to be addressed during the second phase of the policy development.

The draft policy framework contains shared vision and clear directions on how Kenya's fisheries are to be managed. As resource users take up a greater role in fisheries management, the Fisheries Department will evolve from day-to-day management of fleets and fishing activities to greater focus on developing policy and regulatory guidelines, setting direction and guidelines, and evaluating performance. Beach Management Unites (BMUs), the lowest level of fisheries management institutional framework have been established in most fish landing sites to take the role of fisheries management within their areas.

4.4.2 For investment and business enterprise and trade

Kenya's legal framework is based on the English common law tradition and is considered to be quite comprehensive. The flaws are not in the legal texts but in their application by the country's courts. The legal proceedings are slow and costly. The lawyers' fees are comparable to European standards. There is no import licensing except for a few items restricted for security, health or environmental reasons details in the Imports, Exports and Essential Supplies Act (Cap 502). The 2.75 % Import Declaration Form (IDF) fees on imported goods used for manufacturing goods for exports under the Export Promotion Programme Office (EPPO) scheme is still applicable. Manufacturers under the EPPO also have to pay Ksh. 5000 (processing fees). This amount is then deducted from the fees due on the imported goods.

The Export Processing Zones Authority is the one-stop-shop for all export oriented investment under the free zone programme. The Authority approves and licences projects, administers the incentive scheme and provides investor support services to all EPZ investors in Kenya. In addition to the agreements with the US (African Growth and Opportunity Act) and the EU (The Cotonou Agreement), Kenya has a bilateral trade agreement with Norway. The Constitution of Kenya provides guarantees against expropriation of private property, which may occur for reasons of security or public interest. In such a case, a fair compensation is guaranteed.

There are no legal requirements on the equity ownership level, although foreign firms are encouraged to go into joint ventures with Kenyan companies or entrepreneurs. Potential investors are required to submit their project application to the Investment Promotion Centre (IPC) on prescribed application forms available online.

4.5 Business environment

Kenya had an estimated GDP of USD 29.3 billion in 2007 and an annual growth rate in 2006 of 6.1 %. The real GDP growth is forecast to subside to 4.1 % in 2008 due to the violent disruption in January-February 2008. Inflation is expected to rise to 26.8 % in 2008 after 9.7 % in 2007. The GDP per capital in 2006 was USD 455. The setting up of companies is non-bureaucratic. Kenya is interested in investments and at least on the side of formalities a friendly host for foreign companies. It is estimated that about 2000 foreign companies are in one form or another registered in Kenya since the Companies Act was established in 1902. Around 700 new foreign companies were registered during the last 10 years only and 41 new in 2004. Investors are entitled to national treatment and priority right recognition for their patent and trademark filing dates. The Trade Marks Act provides protection for registered trade and service marks that is valid for 10 years and is renewable. However, actual protection for intellectual property – copyrights, patents and trademarks – is inadequate.

Transparency International ranked Kenya 150 out of 181 countries in their 2007 Corruption Perception Index with a score of 2.1. This ranks Kenya the lowest of the selected group, substantially lower than South Africa and Mauritius. The Doing Business 2009 ranks Kenya 82 out of 181, in the top three in its group of Eastern Southern Africa. This makes Kenya one of the best countries to do business in among the selected countries. However, the country scores poorly with regard to factors such as trading across borders and paying taxes.

Table 4.6: Doing Business ranking 2009 and Norwegian fishery adjusted score - Kenya

Ease of...	Rank Doing Business 2009	Score adjusted model
Doing Business	82	147
Starting a Business	109	109
Dealing with Construction Permits	9	9
Employing Workers	68	68
Registering Property	119	238
Getting Credit	5	0.5
Protecting Investors	88	176
Paying Taxes	158	316
Trading Across Borders	148	444
Enforcing Contracts	107	107
Closing a Business	76	8

Compared to the other selected countries, Kenya therefore scores below average. For an actor with good access to credit investing in an export intensive industry, it might be preferable to invest in countries such as Mauritius, South Africa and Ghana.

4.6 Foreign investments, and trade in fish

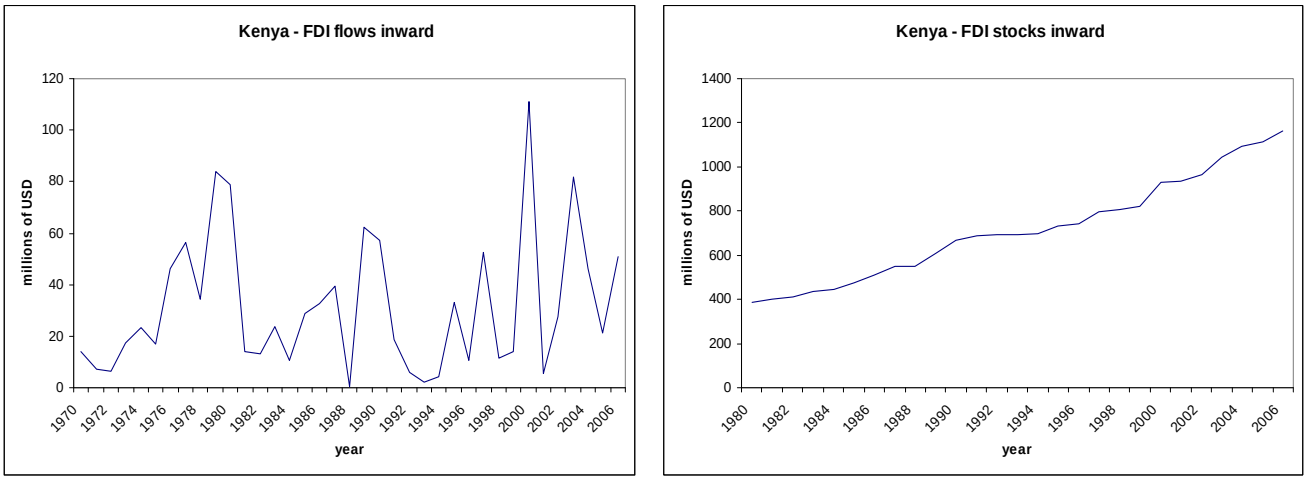
Until 1995, all foreign investments flowing into the country were subject to approval by the Central Bank. After this point all restrictions were removed, including exchange control.

Kenya has put in place measures to attract foreign investors. The legal framework for FDI in Kenya is provided by the Companies Ordinance (chapter 486), the Partnership Act (chapters 20 and 30) and the Foreign Investment Protection Act. The economic liberalization programme that, also, started first with the manufacturing sector was recently extended to agriculture and communication, bringing to an end the monopolies enjoyed by many companies and commodity marketing boards. Kenya has five export processing zones. The Government of Kenya owns two of them (Mombasa and Athi) and the private industry owns the remaining three (Nairobi, Della Rue and Nakuru). The zones offer considerable

advantages such as a ten-year tax holiday followed by a 25 % tax rate for the next ten years, exemption from import duties, exemption on value added and sales taxes and no restriction on management or technical agreement. Special incentives are given to transnational corporations that invest in lesser developed areas. The legal investment regime in Kenya provides protection and non-discrimination against foreign investors, and the investment environment is mostly based on a sound principle. For instance, in 2006, the Communications Commission of Kenya announced regulatory reform where all players in the industry are allowed to offer the entire range of telecoms services.

The annual average of Kenya's inward FDI flows in 2003-2006 was USD 50 million. FDI stocks as a percentage of GDP amounted in 2006 to 5 % for inward stocks, while 0.7 % for outward FDI stocks. The inward FDI flows has been very volatile peaking in 2000 with approximately USD 110 million (Figure 4.4). The inward FDI stocks have been more stable with an annual increase up to USD 1,100 millions in 2006. Inward FDI flows are also quite negligible compared to countries such as Mauritius and Egypt. The inward FDI stock has increased steadily since the 1980s, but is just one seventh of the level of FDI stocks in South Africa.

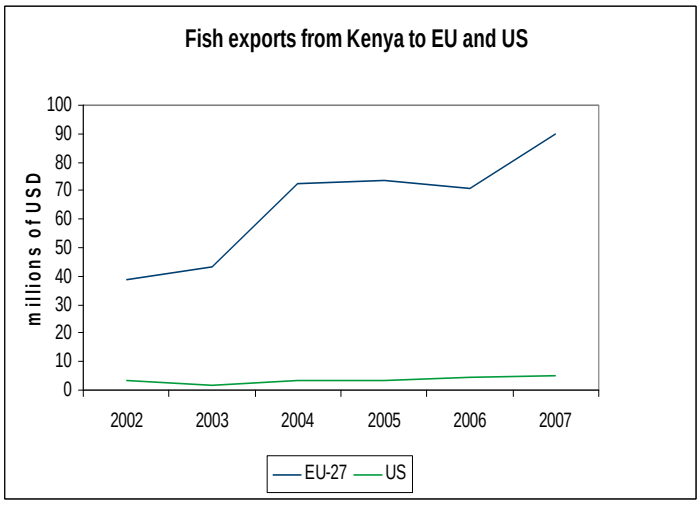
Figure 4.4 Inward FDI flow (1970-2006) and inward FDI stocks (1980-2006) - Kenya



Source: UNCTAD 2008

Kenya has had a steady increase in its fish export to EU-27 in the 2000s peaking in 2007 with USD 90 million. The import has more than doubled the last 6 years since 2002 with its USD 39 million. The American import of fish product from Kenya has been a bit more volatile but peaked in 2007 with USD 5 million.

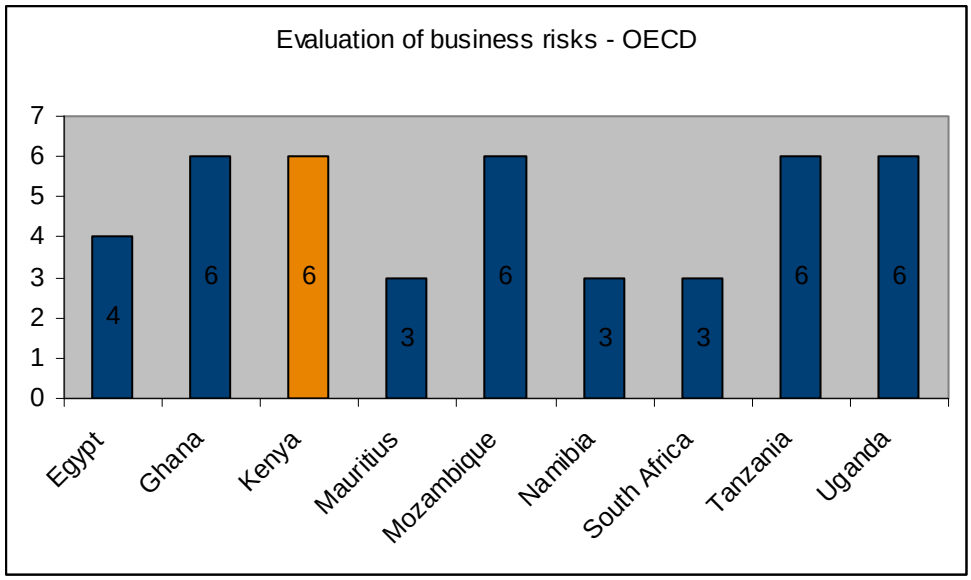
Figure 4.5 Fish exports to EU-27 and the USA - Kenya



Source: UN Comtrade 2008

4.7 Security conditions and evaluation of business risks

Figure 4.6: Evaluation of business risks, OECD - Kenya



As of June 2008, OECD classifies Kenya as a 6 on their scale from 0-7. This is equivalent to a credit rating of B to B-. ViewsWire rates the sovereign risk, banking sector risk, economic structure risk and country risk to CCC, and the political risk at CC. The ONDD rates the political risk in Kenya as 4 on their scale. The commercial risk is rated as a C, on their scale from A to C.

4.8 Sector SWOT analysis and conclusion

Though political and economic conditions are improving and there are signs of increasing investment confidence in Kenya, there are still uncertainties. However, resources are relatively good, and a rising economy will increase domestic demand (local and tourist sectors) and purchasing power for aquatic products. There has been a long record of commercial partnerships in some sectors, with considerable regional investment interest.

Table 4.7: SWOT analysis - Kenya

Strengths • Relatively undeveloped coastal/marine resources • Good inland water resources • Some aquaculture and processing skills, and some support capacity • International tourist destination • The one-stop-shop for exports	**Weaknesses** • Small-scale and relatively uncoordinated sector • Resource management uncertainties • Tourist sector stagnation, constraints in food service development • Governance and transparency concerns • Lack of ability to monitor and control marine fisheries.
Opportunities • Integrated approach to value addition and export using diverse national resources • Support services for aquaculture development • Possible aquaculture production with franchise/nucleus approach • New sector policy underdevelopment	**Threats** • Political and economic instabilities; public sector constraints; • Other national/client interests competing for coastal or lake resources • Illegal fishing

There have been several proposals for large scale aquaculture development in the recent past, and a very large coastal aquaculture project had been repeatedly stalled in a mix of local protest, accusations of political and financial misconduct, and judicial delay. Allocation of major resources is likely to continue to

be a difficulty, though the emerging political environment is supportive of good quality external partnerships. The political unrest after the last presidential election was a set-back for the-then relatively stable country. The two candidates signed an agreement in February 2008, but the waves of distrust and conflict is still visible in the country although the trend is positive, and the strength and opportunities are clearly visible.

4.9 Preliminary recommendation for relevant areas for investment potential

On balance Kenya is probably not so strong as other countries as a primary choice, although there is useful resource potential. The previous record on supporting large projects has been very questionable, with major issues of transparency in accessing resources, and notable challenges in establishing a high quality, ethical business which is still profitable and which meets local needs.

- With respect to Lake Victoria, a large scale cage culture project – 1000-10,000t of output - based in Kenya could be possibility, making use of the infrastructure of Kisumu port and its options of transport to Nairobi and Mombasa, and linking with hatchery production from the nearby 'Lake Basin' area, which has received considerable development support in pond aquaculture over recent years. However, in many respects, Uganda, which has a stronger clustering of resources and commercial activities, may be a better choice for such a development.
- There are prospects for adding value to commercial fisheries in the coastal region, though the diversity and variability of supply would require either a small-scale niche approach or a very flexible production strategy. Competition for resource from existing enterprises would be a constraint.

There may be prospects for setting up networked production and marketing projects linking with smaller local producers, using franchise approaches, though this might also be done through a regional approach. In conclusion, and because of business and financial uncertainties, Kenya would not be chosen.

5 Mauritius

5.1 Sector description

5.1.1 Marine Fisheries

Mauritius has an Exclusive Economic Zone (EEZ) of 1.9 million km² extending from the coasts of the islands of Mauritius, Rodrigues, St Brandon (Cargados Carajos Shoals), Agalega, Tromelin and Chagos Archipelago. The EEZ has a good resource level, including pelagic and demersal species. Fisheries include the island-based artisanal fisheries, the offshore demersal fishery of the banks of the Mascarene Plateau and the Chagos Archipelago, and the tuna fishery in the Western Indian Ocean.

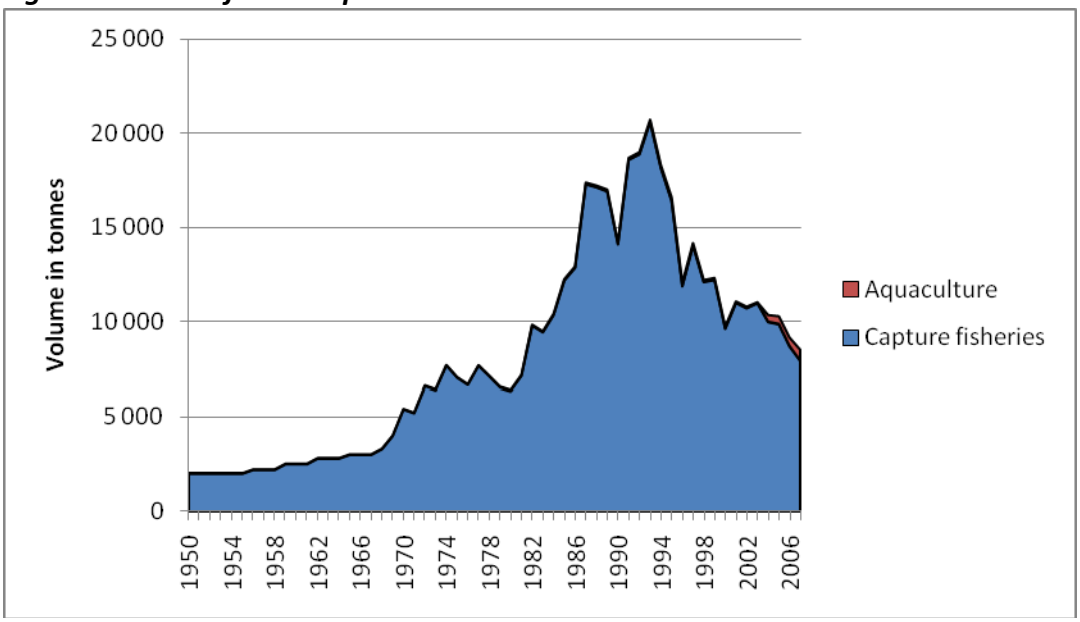
Fresh fish is landed along the coast of Mauritius at 61 fish landing stations by the artisanal fishers, who fish inside the lagoon and in the vicinity of the outer reef. The gear used include basket traps, hook-and-line, harpoons, large nets and gillnets. The main species caught are the lethrinids, scarids, sigannids and mullets. In 2004, there were 2,256 active fishermen in the artisanal fishery. There were 1,898 fishing boats in Mauritius and 900 in Rodrigues. In 2004, total fresh fish production from the artisanal fishery was 1,043 t. The average catch per fisherman-day was 4.2 kg.

To reduce effort in the overexploited lagoon, fishers are being encouraged to catch large pelagic fish around Fish Aggregating Devices (FADs) moored around the islands. These are placed 5 to 10 nautical miles outside the fringing reef, and are currently being maintained and renewed by the government, which is also providing incentives and appropriate training to fishers willing to operate around FADs.

A major source of frozen fish for the Mauritian market is the shallow banks located on the Mascarene Plateau, lying about 500 km north of Mauritius. Fishing occurs in depths of 30 to 60 m on the St Brandon groups of islands, Saya de Malha, Nazareth and Albatross banks, which have sandy and coral bottoms. The fishers operate from dories, transported by mother vessels. The main species caught is *Lethrinus mahsena*. In 2004, eight vessels operated in the fishery, catching 2,680 t of fish, which was frozen on board and landed in Port Louis. The whole of the production is consumed locally, around 30 % of total fish consumption in Mauritius.

The major industrial fishery exploits the tuna resources in the South West Indian Ocean. Land transhipment constitutes a very important related activity, and in 2004, a total of 14,255 t of tuna and tuna-like species was transshipped at Port Louis in 256 calls by licensed and non-licensed longliners. Most of the product transshipped consisted of albacore tuna. Three Mauritian vessels were involved in the longlining fishery, landing a total of 1,117 t. European purse seiners operating in the Western Indian Ocean landed 47,705 t of tuna, which went to the local cannery.

Figure 5.1: Total fisheries production - Mauritius



FAO Fishstat 2009

Table 5.1: Capture fisheries production – Mauritius

Species	2001	2002	2003	2004	2005	2006	2007
Aquatic animals	.	.	.	.	.	340	620
Crustaceans	44	49	46	40	39	10	3
Freshwater fishes	<0.5	<0.5	-	-	-	-	-
Marine fishes	10,595	10,322	10,595	9,624	9,523	8,247	7,215
Molluscs	347	335	327	307	293	84	68
TOTAL	**10,986**	**10,706**	**10,968**	**9,971**	**9,855**	**8,681**	**7,906**

FAO Fishstat 2009 - Volume in tonnes

Table 5.2: Aquaculture production – Mauritius

Species	2001	2002	2003	2004	2005	2006	2007
Cyprinids	<0.5	<0.5	-	-	-	-	-
Giant river prawn	19	27	10	6	8	3	5
Giant tiger prawn	<0.5	<0.5	<0.5	<0.5	-	-	-
Hooded oyster	3	4	3	2	4	3	1
Indo-Pacific swamp crab	2	1	2	2	2	2	1
Marine fishes	1	2	1	.	3	2	1
Red claw crayfish	4	2	1	-	<0.5	<0.5	-
Red drum	.	.	.	326	368	416	550
Tilapias	30	20	16	14	15	17	12
TOTAL	**59**	**56**	**33**	**350**	**400**	**443**	**570**

FAO Fishstat 2009 - Volume in tonnes

Table 5.3: Fishery exports – Mauritius

	2001	2002	2003	2004	2005	2006
Tonnes	27,382	28,945	32,555	33,412	36,770	52,852
USD 1000	63,193	68,414	75,027	84,202	109,424	160,250
Average value (USD/kg)	2.31	2.36	2.30	2.52	2.98	3.03

FAO Fishstat 2009

Table 5.4: Fishery imports – Mauritius

	2001	2002	2003	2004	2005	2006
Tonnes	53,227	85,406	65,365	82,521	106,135	153,602
USD 1000	53,485	129,642	93,759	117,233	146,111	214,748
Average value (USD/kg)	1.00	1.52	1.43	1.42	1.38	1.40

FAO Fishstat 2009

Table 5.5: Fisheries commodities production - Mauritius

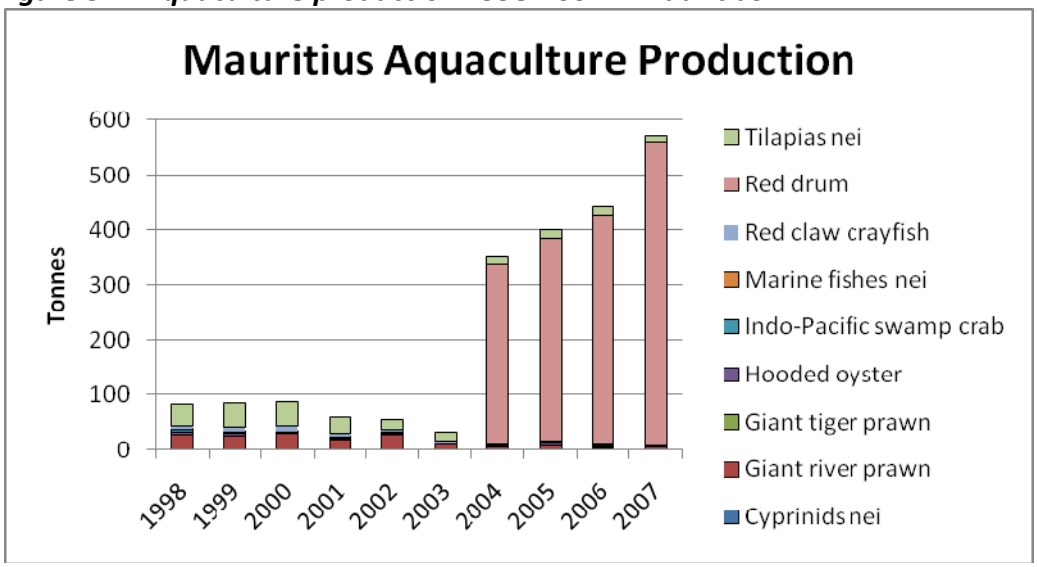
Commodity	2000	2001	2002	2003	2004	2005	2006
Crustaceans and molluscs	-	-	-	1	-	-	2
Crustaceans and molluscs, canned	42	40	20	20	8	9	-
Fish, canned	18,263	26,012	27,411	30,787	34,248	38,896	57,878
Fish, dried, salted, or smoked	969	877	994	797	1,025	843	740
Fish, fresh, chilled or frozen	8,802	10,613	10,641	11,323	11,119	10,904	10,325
Meals	5,210	2,570	5,114	5,189	5,263	6,584	10,265
TOTAL	**33,286**	**40,112**	**44,180**	**48,117**	**51,663**	**57,236**	**79,210**

FAO Fishstat 2009 - Volume in tonnes

5.1.2 Aquaculture

Commercial aquaculture consists of the production of giant freshwater prawn (*Macrobrachium rosenbergii*), red tilapia (*Oreochromis sp*.) and marine red drum (*Scyanops ocellatus*). Total production from aquaculture was 570 t in 2007. A marine fish farm using floating net cages started operation during the year and production of red drum amounted to 325 t (Figure 5.2).

Figure 5.2: Aquaculture production 1998-2007 – Mauritius



Source: FAO Fishstat 2009

Particularly the red drum farming has been successful in Mauritius. Production of this species increases from nil in 2003 to 550 t in 2007.

5.2 Skills, education and support services

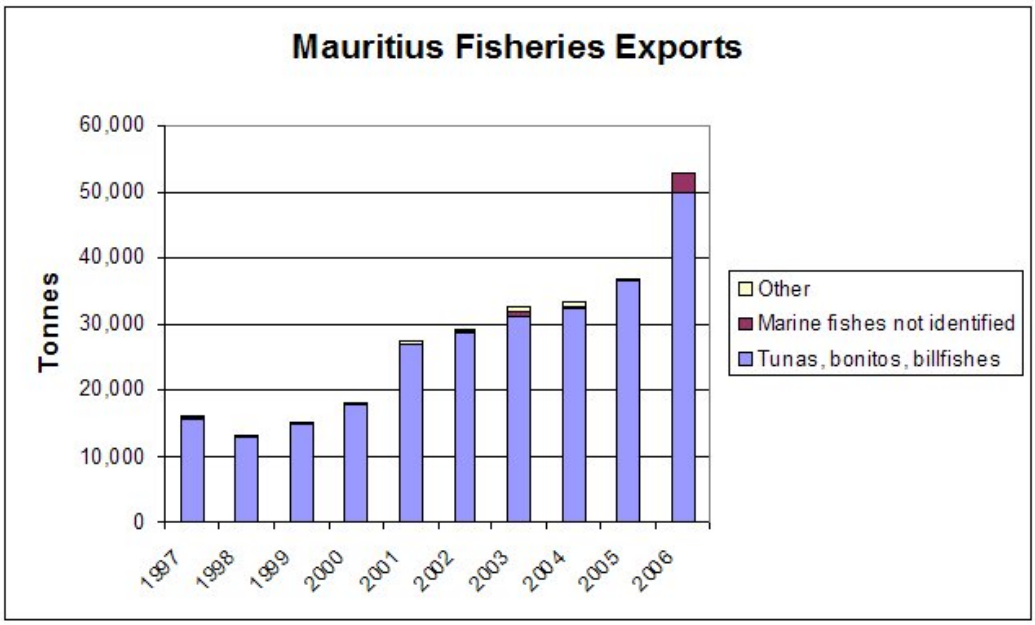
Responsibility for fisheries matters in Mauritius lies with the Ministry of Agro-Industry and Fisheries. Its Fisheries Division is responsible for research and collection of statistics, and has assumed responsibility for management and policy advice, as well as development of near-shore and offshore fisheries and aquaculture. Since 1982, the research arm of the Ministry has been housed at the Albion Fisheries

Research Centre. In 2004, a Fisheries Training and Extension Centre (FiTEC) was constructed at Pointe aux Sables to provide training to fishers, with the support of funds from the Government of Japan. FiTEC has as its primary objective to enhance the knowledge and skills of fishers to operate in the outer lagoon fishery, ensure safety at sea and create awareness of fisheries management and marine conservation. The Fisheries Protection Service, with a staff of 264 officers, is responsible for the enforcement of all fisheries law and regulations. All fisheries are managed on the basis of FMRA.

5.3 Physical and marketing infrastructure

The physical infrastructure in Mauritius is variable, with good levels of service and access in more populated areas and reasonable quality port and distribution facilities, but more limited access and service to more remote rural areas. For telecommunications, Mauritius has a well-developed digital infrastructure and offers state-of-the-art facilities including international leased lines and high speed Internet access.

Figure 5.3: Fisheries exports 1997-2006 – Mauritius



Source: FAO Fishstat 2008

All of the artisanal fisheries catch and 90 % of the banks fisheries catch is consumed domestically. Fish from the artisanal fishery is consumed fresh, as delivery is rapid from the 61 landing sites to sales points inland. About 100 t of chilled fish is landed by the semi-industrial chilled-fish fishery. The fish is retailed from chilling cabinets or iced. Catch from the banks fishery is stored in cold stores (-18°C) ashore for distribution to retail outlets in urban areas and villages equipped with frozen storage facilities. Salted fish is produced in St Brandon for shipment to Mauritius. Sun-dried octopus and salted fish products formerly produced in Rodrigues have declined to negligible levels. Princes Tuna Mauritius (PTM), a canning factory employing about 2,000 persons, processes some 50,000 t of canned tuna for export to the EU market, this tuna is brought from vessels catching it around the Indian Ocean.

Thon des Mascareignes Ltd, a subsidiary of the IBL Group, started operating a tuna loining plant in May 2005, in response to increasing demand for pre-cooked tuna loins, in Europe and worldwide. It benefits from its proximity to the main fishing grounds of the Western Indian Ocean and from duty-free exports to Europe as Mauritius is part of the ACP-EU countries. Whilst most of the production is exported to Spain, France, Italy & the United States, smaller niche markets are also being developed in other parts of the world. The company operates a 250 t/day processing plant; up to about 135 t of loins can be produced per day. The processing plant employs about 1,600 persons. Fisheries exports in 2006 were over 50,000 t with a value of US$160 million (Figure 5.3).

5.4 Legislative framework

5.4.1 For fisheries and aquaculture

The Fisheries and Marine Resources Act 1998 (FMRA) provides the necessary legal framework for fisheries and marine living resources management. It makes provision for registration of fishers; collection of fisheries information; setting up of marine protected areas (fishing reserves and marine parks and reserves) and fish farming; prohibition of fishing by use of poisonous substances, spears or explosives; closed periods for net fishing and fishing of oysters; prohibition of fishing of undersized fish, crabs or lobsters in the berried state, turtles and marine mammals; prohibition of sale of toxic fish and fish products unfit for human consumption; import of fish and fish products; import of fishing vessels; and licensing of nets and fishing implements. Provisions are also made for licensing of local and foreign boats and vessels. A local boat or vessel needs a fishing licence to fish within Mauritian waters or on the continental shelf, in any fishery on the high seas and in the fishing zone of a foreign state. The Fisheries Protection Service and the National Coast Guard enforce provisions of the FMRA. Catch quotas for the banks fisheries have been imposed since 1994 and the number of vessels operating on the smaller banks is limited through a licensing system.

5.4.2 For investment and business enterprise and trade

The Mauritius Legislature has modernised the legal framework that governs the non-banking financial services sector on the island by introducing three new pieces of legislation, and repealing five pieces of legislation that had become outdated.

The new legislation comprises The Financial Services Act 2007 of Mauritius (the "FSA"), the Securities (Amendment) Act 2007 (the "Securities (Amendment) Act") amending the Securities Act 2005 (the "Securities Act") and the Insurance Amendment Act 2007 amending the Insurance Act 2005 (the "Insurance Act"). All came into force on 28 September 2007. The FSA, Securities Act and the Insurance Act are hereinafter referred to as the "Acts". The Financial Services Development Act 2001 (the "FSDA"), the Financial Services Development (Amendment) Act 2005, the Insurance Act 1987, the Stock Exchange Act 1988 and the Unit Trust Act 1989 have been repealed.

5.5 Business environment

Mauritius has one of the most successful and competitive economies in Africa. It had a GDP of USD 6,959 billion in 2007, and a real growth rate of 4.6 %. The per capita income in 2007 was USD 11,200, and the average inflation rate was 8.8 %. Major trading partners are Europe and the US, while the major suppliers are South Africa, France, and India.

The business climate is friendly yet extremely competitive. Mauritius has a long tradition of private entrepreneurship, which has led to a strong and dynamic private sector. Firms entering the market will find a well-developed legal and commercial infrastructure. Telecommunications services were liberalized in January 2003. The government policy is to act as a facilitator to business, leaving production to the private sector.

In the latest Corruption Perception Index published by Transparency International, Mauritius is ranked 53 out of 180 countries with a score of 4.7. The Doing Business 2009 ranks Mauritius 24 out of the 181 economies, highest in its group of Eastern Southern African states. Regarding factors important to Norwegian investors Mauritius scores substantially better than all other countries in our selection. Table 5.6 shows Mauritius ranking in Doing Business 2009 and the score in our adjusted model.

Table 5.6: Doing Business ranking 2009 and Norwegian fishery adjusted score - Mauritius

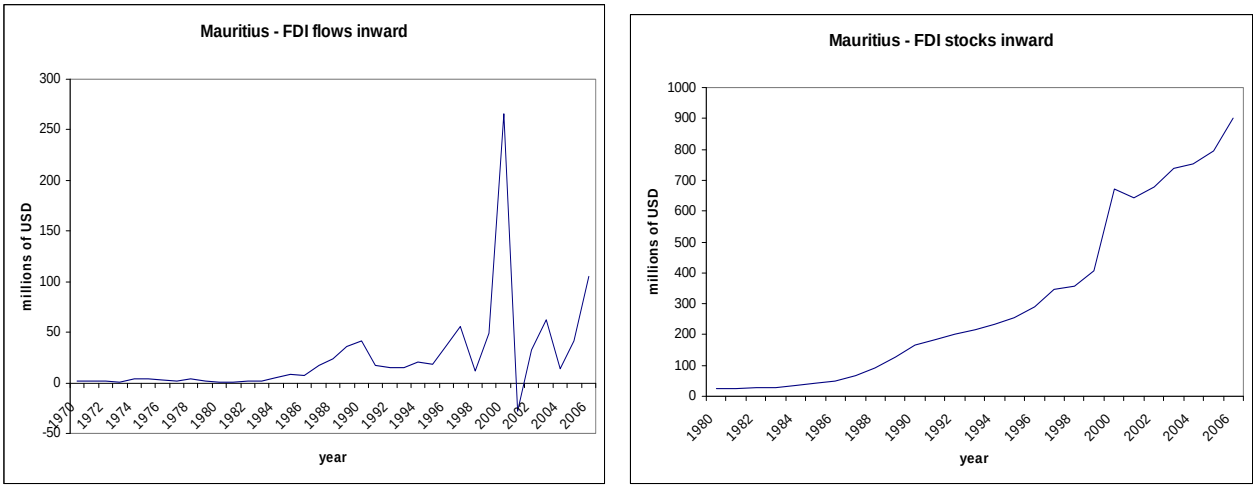
Ease of...	Rank Doing Business 2009	Score adjusted model
Doing Business	24	55
Starting a Business	7	7
Dealing with Construction Permits	36	36
Employing Workers	64	64
Registering Property	127	254
Getting Credit	84	8.4
Protecting Investors	11	22
Paying Taxes	11	22
Trading Across Borders	20	60
Enforcing Contracts	76	76
Closing a Business	70	7

Among several important factors such as protecting investors, paying taxes, trading across borders and enforcing contracts, Mauritius scores the best among our selection.

5.6 Foreign investments and trade in fish

Inward FDI stocks as a percentage of GDP counted 13.9 % in 2006, while the annual average of inward FDI flows from 2003-2006 was USD 55.8 million. Mauritius also had an annual average the same years in their outward FDI flows at USD 20.9 million. The biggest sectors receiving FDI in 2006 was hotels and finance. This is shown in Figure 5.4.

Figure 5.4 Inward FDI flows (1970-2006) and inward FDI stock (1980-2006) - Mauritius

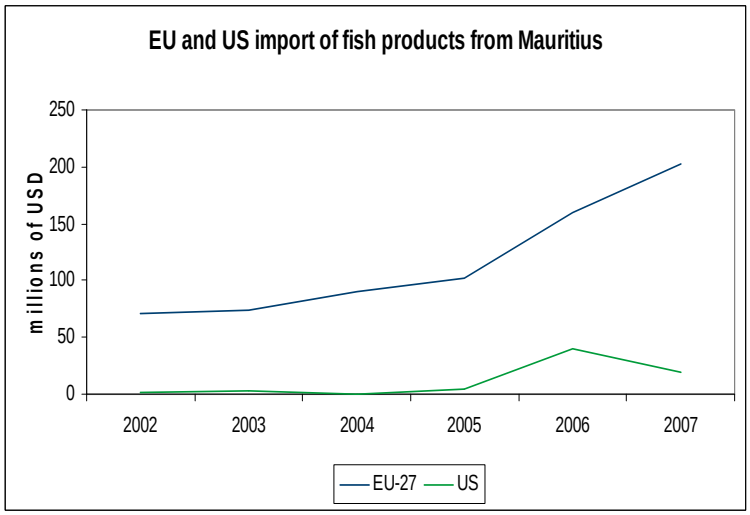


Source: UNCTAD 2008

The inward FDI flows of Mauritius peaked in 2000 at USD 265 million, and then dropped to minus USD 27 million in 2001 due to the volatile FDI flow market. After this downturn, inward FDI flow to Mauritius climbed, and by 2006, the inward FDI flows amounted to USD 105 million. The inward FDI stocks has been more stable and increased steady every year since 1980, and amounted to USD 900 million in 2006.

EU-27 has tripled import of fish products from Mauritius in the period 2002 to 2007, from USD 71 million to over USD 203 million. The US import has been more modest amounting to just USD 19 million in 2007 (Figure 5.5). In our selection, Mauritius is the third largest exporter of fish products to the EU markets.

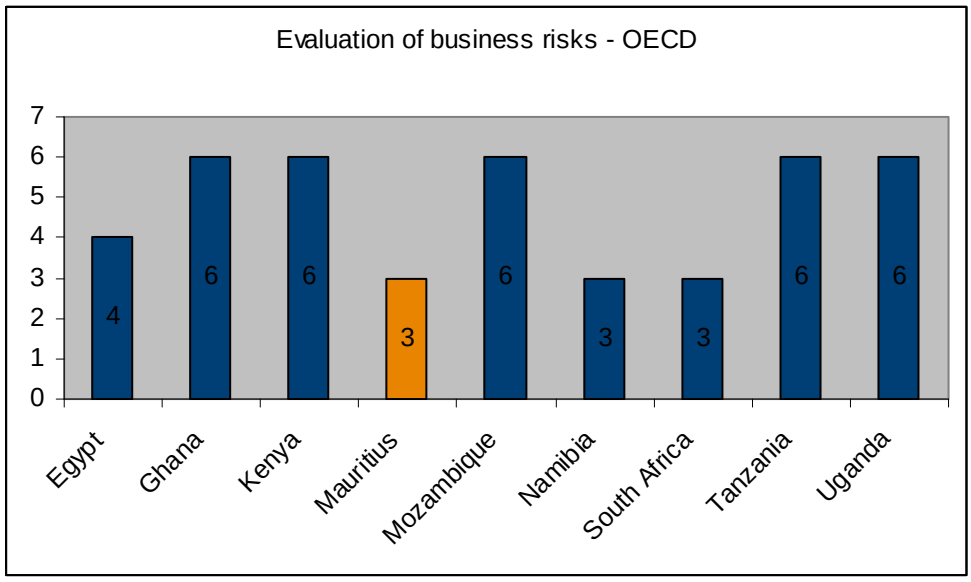
Figure 5.5 EU and US import of fish products - Mauritius



Source: UN Comtrade 2008

5.7 Security conditions and evaluation of business risks

Figure 5.6: Evaluation of business risks, OECD - Mauritius



As of June 2008, OECD categorise Mauritius as 3. This is equivalent to a credit rating of BBB- to BBB+. ViewsWire rates the currency risk, the banking sector risk and the country risk at BBB, while the economic structure risk get rated B and the political risk get an A rating. Among the group of countries included in this analysis, Mauritius are clearly amongst the top countries.

The ONDD rates the political risk in Mauritius as a 3 on their scale. The commercial risk is rated B on their scale from A to C.

5.8 Sector SWOT analysis and conclusions

Mauritius is an attractive location for investment and business development, and has a good reputation for the quality and diversity of its seafood, including an active aquaculture sector which has steadily gained in reputation and market. It has received substantial assistance through the EU in production support and value addition and is well positioned to build further in the development of the sector.

Table 5.7: SWOT analysis - Mauritius

Strengths	**Weaknesses**
• Relatively undeveloped coastal/marine resources • Good inland water resources • Some aquaculture and processing skills, and some support capacity • International tourist destination • The one-stop-shop for exports	• Small-scale and relatively uncoordinated sector • Resource management uncertainties • Tourist sector stagnation, constraints in food service development • Governance and transparency concerns • Lack of ability to monitor and control marine fisheries.
Opportunities	**Threats**
• Integrated approach to value addition and export using diverse national resources • Support services for aquaculture development • Possible aquaculture production with franchise/nucleus approach • New sector policy underdevelopment	• Political and economic instabilities; public sector constraints; • Other national/client interests competing for coastal or lake resources • Illegal fishing

5.9 Preliminary recommendation for relevant areas for investment potential

Mauritius is likely to be an attractive option for business investment, though a number of other external investors are already active. The high score in the Doing Business 2009 is also potentially pulling the attention to Mauritius as a possible location for investment in our selection, along with the known commitment of the political leaders to diversify the sector and encourage greater investment. Local participation may be necessary and facilitation of this should be relatively easy.

- Medium scale value addition – product and brand development – link with local producers either in co-partnership or development through ownership of a more diversified holding
- Higher value aquaculture production, either by development and upgrading of existing operations or establishment of a new venture.
- Small-medium scale aquaculture products and services provided to the growing aquaculture producers.

Mauritius, although not one of the top catchers of fish has good potential in a range of areas of possible investment and development for Norwegian fishery and aquaculture concern and merits further attention to explore these in more detail.

6 Mozambique

6.1 Sector description

6.1.1 Fisheries

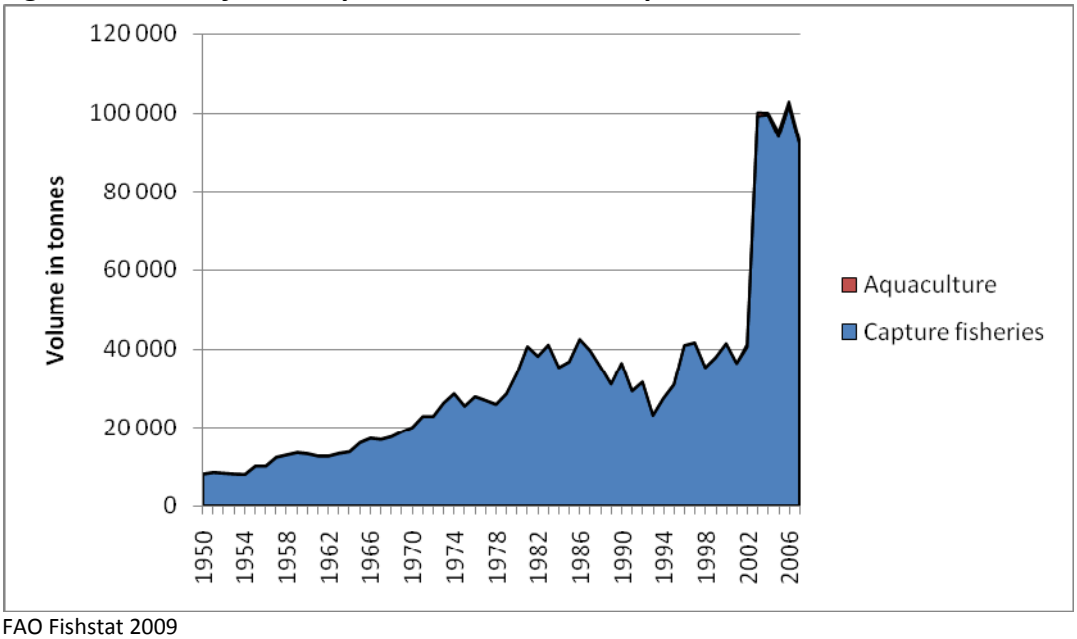
Capture fisheries in Mozambique is an important sector and contributes significantly to the diet of the population. Artisanal production in 2003 was estimated by the Ministry of Fisheries of Mozambique to be about 67,074 t. In 2003 registered total catches from industrial and semi-industrial fishing boats were reported to be 22,037 t and accounted for 10 percent of the country's total exports. Total production in 2007 amounted to 92,270 t of crustaceans, finfish and molluscs.

Industrial fishing is mainly operated through joint ventures between the government and foreign companies from Japan and Spain. The main commercial species are lobster, crabs, gamba (deep-water shrimp), shrimp, crayfish and squid. Lobster, shrimp and gamba are the main exports with key markets in African states, Hong Kong, Japan, Italy, Spain, Portugal and the UK.

Mozambique has a Fisheries Agreement with the EU (renewed on 1/1/07) which allows EU vessels to fish in Mozambique waters (specifically for tuna) in return for financial contributions earmarked for investment in the Mozambican fisheries sector.

The fishing sector is currently being hit hard by the rise in global fuel costs and increasing illegal fishing activities combined with lower prices for shrimp.

Figure 6.1: Total fisheries production - Mozambique



FAO Fishstat 2009

Table 6.1: Capture fisheries production – Mozambique

Species	2001	2002	2003	2004	2005	2006	2007
Aquatic animals	11	10	4	<0.5	<0.5	.	.
Crustaceans	12,114	11,909	15,754	13,402	15,318	12,970	11,712
Freshwater fishes	15,076	20,037	19,831	27,760	22,991	26,017	24,081
Marine fishes	8,784	8,019	63,173	57,977	55,282	62,551	55,788
Molluscs	431	577	520	450	404	361	689
TOTAL	**36,416**	**40,552**	**99,282**	**99,589**	**93,995**	**101,899**	**92,270**

FAO Fishstat 2009 - Volume in tonnes

Table 6.2: Aquaculture production – Mozambique

Species	2001	2002	2003	2004	2005	2006	2007
Common carp	.	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Elkhorn sea moss	.	157	210	92	36	15	69
Giant tiger prawn	.	500	166	215	553	498	346
Grass carp	.	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Indian white prawn	.	100	166	214	553	497	347
Largemouth black bass	.	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Mozambique tilapia	<0.5	<0.5	<0.5	-	-	-	-
Nile tilapia	.	.	.	.	.	.	.
Spiny eucheuma	.	.	313	.	20	.	.
Tilapias	.	77	77	17	116	53	145
TOTAL	**0**	**834**	**932**	**538**	**1,278**	**1,063**	**907**

FAO Fishstat 2009 - Volume in tonnes

Table 6.3: Fishery exports – Mozambique

	2001	2002	2003	2004	2005	2006
Tonnes	15,002	12,565	11,141	13,442	14,998	16,570
USD 1000	99,716	122,840	96,018	100,469	85,036	96,698
Average value (USD/kg)	6.65	9.78	8.62	7.47	5.67	5.84

FAO Fishstat 2009

Table 6.4: Fishery imports – Mozambique

	2001	2002	2003	2004	2005	2006
Tonnes	4,567	6,693	11,422	14,973	23,700	17,783
USD 1000	8,559	10,992	33,391	28,918	33,561	31,781
Average value (USD/kg)	1.87	1.64	2.92	1.93	1.42	1.79

FAO Fishstat 2009

Table 6.5: Fisheries commodities production - Mozambique

Commodity	2000	2001	2002	2003	2004	2005	2006
Crustaceans and molluscs	10,443	12,534	10,357	10,000	10,000	10,000	10,000
Fish, canned	150	100	100	100	100	100	100
Fish, dried, salted, or smoked	2,500	2,500	2,036	2,000	2,000	2,000	2,000
Fish, fresh, chilled or frozen	.	.	301	-	-	-	-
TOTAL	**13,093**	**15,134**	**12,794**	**12,100**	**12,100**	**12,100**	**12,100**

FAO Fishstat 2009 - Volume in tonnes

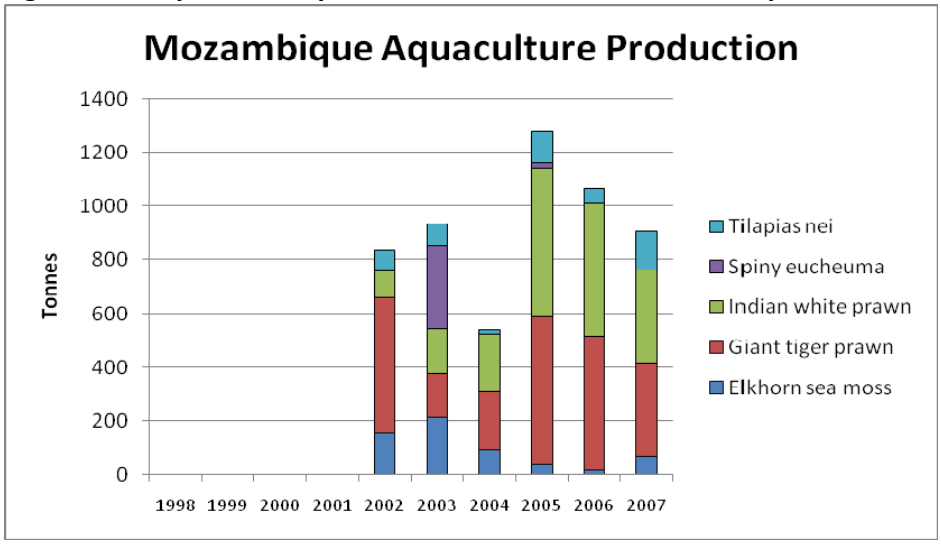
6.1.2 Aquaculture

This is a relatively new activity; though the culture of freshwater species such as tilapia has existed for many decades, marine aquaculture has emerged over the last five years. The aquaculture industry in 2003 consisted of commercial farms producing marine shrimp (*Penaeus spp*.) and seaweed (*Kappaphycus spp*.), and artisanal farms producing tilapia. In 2007 aquaculture production was approximately 907 t, down from 1,063 t in 2006, and well below the government target of 5,000 t. Aquaculture practices range from extensive farming (tilapia and seaweeds) with few inputs and modest output, to semi-intensive farming (shrimp) with high inputs and high output.

The development of aquaculture in Mozambique could play an important role in the socio-economic development of the country: providing cheap protein, improving diet, creating jobs, generating income and promoting regional development. The potential for aquaculture development in Mozambique is good. There is a favourable environment for investment, climatic conditions are favourable (tropical and sub-tropical climate), it is unpolluted, population pressure is low, and there are extensive resources with a potential of 33,000 ha of land suitable for coastal aquaculture and the existence of wild native species which can potentially be farmed such as giant tiger prawn *Penaeus monodon*, Indian white prawn *Penaeus indicus*, kuruma prawn *Penaeus japonicus*, speckled shrimp *Metapenaeus monoceros*, giant river prawn *Macrobrachium rosenbergii* and tilapia *Tilapia* spp.

It is estimated that there are over 3,500 freshwater fish ponds (200-400 m^2 in area, 105 ha) in Manica, Niassa, Tete, Sofala and Zambézia. Most of these are subsistence level operations, although there is one commercial cage farm in Manica province which commenced production of tilapia in 2004.

Figure 6.2: Aquaculture production 1998-2007 - Mozambique



Source: FAO Fishstat 2009

There are currently three commercial shrimp aquaculture enterprises operating in Beira, Sofala Province (Sol & Mar with 500 ha), Quelimane, Zambézia province (Aquapesca with 1,000 ha) and Pemba, in Cabo Delgado province (Indian Ocean Aquaculture with 980 ha). All use a semi-intensive farming system in earthen ponds (size range from 5-10 ha) and import feed from the region (South Africa and Seychelles) or from Asia. Current production is at 4.8 t/ha/year. Water quality is permanently monitored and investment is high. The species produced are *Penaeus monodon* the giant tiger prawn and *Penaeus indicus* the Indian white prawn.

Seaweed (*Eucheuma spinosum* and *Kappaphycus alvarezii*) is farmed in Cabo Delgado (from Pemba to Macomia, including some islands in the Quirimba archipelago) and in Nampula (between Angoche and Nacala) provinces, although this appears to have declined since 2003.

6.2 Skills, education and support services

Direct employment in fisheries and aquaculture is estimated to be 95,000, of whom 90 % are in the artisanal sector. It is estimated that about 1,000 people are employed on the commercial farms on a full-time basis. Around 5,500 people are involved in subsistence aquaculture as a part-time activity, of whom 3,500 are in tilapia extensive farming and 2,000 in seaweed farming. Other activities include agriculture, including cash crops and livestock. The vast majority, over 90 %, are illiterate or have a primary education, whilst a small number, mainly those in administrative areas, have a secondary education. The commercial farms employ overseas workers in technical and managerial positions. In seaweed farming 80 % of the producers are women, whilst on the commercial farms women make up 30 % of the workers employed in processing.

The main public body for the promotion and support of activities in science and technology in Mozambique is the Ministry for Science and Technology. Research priorities in the fisheries sector, including aquaculture, are set by the Ministry of Fisheries.

In the fisheries sector there are two bodies responsible for scientific research and development: the Fisheries Research Institute (IIP) and the Institute for the Development of Small Scale Fisheries (IDPPE). The IIP operates as a traditional fisheries research institute with focus on biological aspects of management. It performs very well within this paradigm and with the limited resources available. Both the IIP and the IDPPE are involved in applied research and extension/experimental fishing activities. Under the umbrella of the Ministry of Fisheries, there is a Fisheries School which provides vocational training for fishermen and fishing vessel machinists.

There are currently no facilities for aquaculture research in the country. Research is limited to resource surveys and environmental studies with the support of outside laboratories. There are no institutions teaching aquaculture subjects in Mozambique.

6.3 Physical and marketing infrastructure

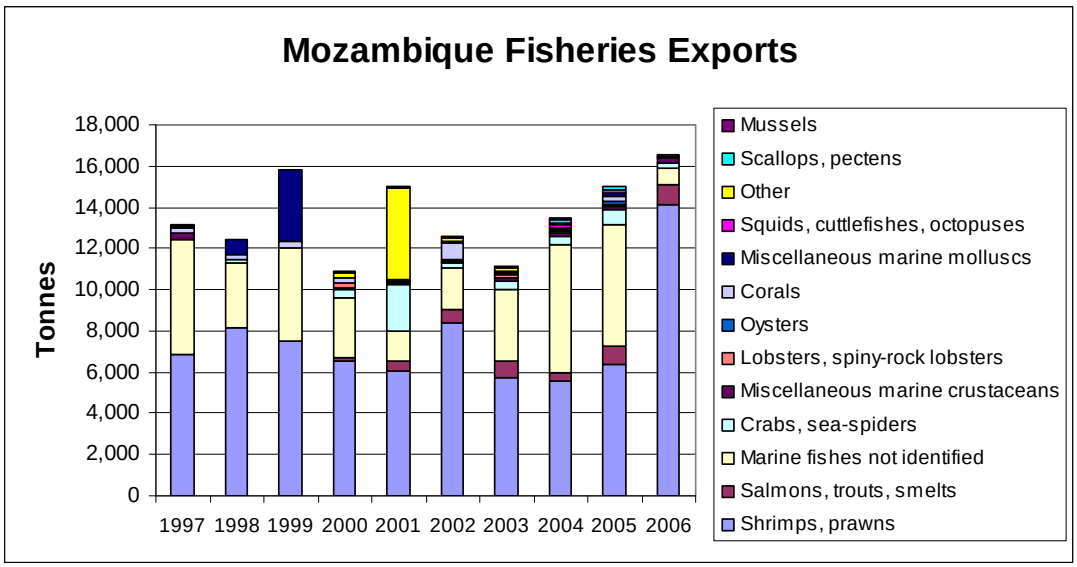
Fish marketing and distribution are carried out by the private sector (formally and informally). A wide range of marine fish products is available and marketed. Marine aquaculture production has served external market demands, while freshwater production is for household consumption. The domestic market for marine products is small and consumption of such products is mainly confined to marine areas. Fish consumption in the country is estimated at 7-10 kg/year. High-value species such as prawns *Penaeus monodon* and *Penaeus indicus* are exported. Europe and the USA are the primary export destinations for aquaculture exports. Small volumes are also marketed in South Africa and Asian countries. The production of cultured tilapia from cages is all marketed locally.

The Association of Shrimp Producers of Mozambique is made up of the three established businesses Aquapesca, Indian Ocean and Sol e Mar. Membership is limited to companies licensed by authorities as industrial producers. With respect to marketing, the Association directs its efforts to ensuring that Mozambique shrimp maintains a reputation for high quality. This will involve implementing self-regulating codes of conduct for responsible aquaculture, and creating for its members a label guaranteeing quality to the buyers. The government is supporting producers to achieve their market objectives by introducing regulations to govern the handling and processing of products from both capture fisheries and aquaculture. The Fish Inspection Department in the Ministry of Fisheries is the competent authority for inspection, testing and certification of both capture and aquaculture products.

Two aquaculture companies (Aquapesca and Indian Ocean) are authorised for export to the EU (2007) from a total of 90 authorisations. Of these, 8 are processing plants, one is a cold store and the rest are either factory or freezing vessels. The processing plants are mostly centred on Beira in Sofala region, although Aquapesca is in Quelimane (Zambezia Region) and Indian Ocean Aquaculture is in Pemba (Cabo

Delgado Region). Processing plants also exist in Maputo and Angoche (Nampula Region). The Armazém Frigorifico da Crustamoz cold store is in Quelimane. Sol e Mar, a Chinese-Mozambican shrimp farm on the outskirts of Beira lost its license to export to the EU in 2006. In 2003 the fisheries sector constituted about 4 % of GDP and 28 % of foreign exchange earnings. Exports of aquatic products amounted to 16,570 t worth USD 96.698 million in 2006 (Figure 6.3).

Figure 6.3: Fisheries exports 1997-2006- Mozambique



Source: FAO Fishstat 2008

6.4 Legislative framework

6.4.1 For fisheries and aquaculture

The Ministry of Fisheries has overall responsibility for the management and administration of aquaculture in Mozambique. Two government bodies deal directly with aquaculture: the Aquaculture Department in the Ministry of Fisheries and the Aquaculture Division at the Fisheries Research Institute (IIP). Fish Inspection Department under the Ministry of Fisheries is responsible for the control of quality standards of all aquaculture products.

Despite the creation of a separate Ministry of Fisheries, subsistence small-scale freshwater fish farming is under the promotion and assistance of the provincial agriculture departments.

The Fisheries Law (Law 3/90 of 26 September 1990) and subsequent regulations form the legal basis for the fisheries sector. The Fisheries Law defines the role and responsibility of the fisheries administration and the principles which guide the fishing activities. The maritime regulation (Decree 43/2003 of December 10th) deals with fisheries administration and management (licensing procedures, fishing regimes and gears, quality control, management measures etc). There is a general aquaculture regulation that defines all rights and obligations of all stakeholders in Mozambique (Decree 35/2001 of 13 of November). The legislation defines specific norms and requirements for aquaculture farms and establishes procedures for licensing and parameters for each farming system.

Through the Fish Inspection Department and the Aquaculture Department the Ministry of Fisheries is responsible for controlling the use of chemicals in aquaculture. For that purpose a National Plan for the control of residues of veterinary drugs, heavy metals, pesticides and other environmental contaminants is drawn up and implemented every year. The Fish Inspection Department is the competent authority for the control of quality standards of all fish and fisheries products including aquaculture products. Given that aquaculture development has expanded and products have become more diverse, specific standards have to be legislated on by the Ministry of Fisheries.

There are legal requirements for environment impact assessment for aquaculture farms larger than 5 ha and with an annual output above 100 tonnes. An Environmental Law was approved in October 1997. There is a new regulation for the control of effluent discharged by factories, industrial plants and other development activities.

The Land Law was approved in July 1997 (N° 19/1997). It follows the Constitution and is similar to previous legislation (1979 Land Law) whereby all land is still owned by the state. No private land rights exist.

6.4.2 For investment and business enterprise and trade

The Law 4/84 and the Direct Investment Order of January 1987 set the basic framework for foreign investment. In June 1993, a new investment code was approved, simplifying procedures for investment proposals and streamlining the decision process. The country adopted a separate code for petroleum and mining industries. The CPI offers a comprehensive service in support of foreign investors wishing to invest anywhere in the country. It acts as a one-stop shop. Companies established under the Investment Code must get authorization from the CPI and register their investment at the Ministry of Finance and the Bank of Mozambique. Regulations governing business operations include labour and tax laws and investment incentives such as the ability to remit profits.

6.5 Business environment

Mozambique had a GDP of USD 6.4 billion in 2006, with an annual growth rate of 7.9 %. GDP per capita in 2006 amounted to USD 320. The biggest natural resources in Mozambique are i.e. hydroelectric power, coal, natural gas, iron and arable land. Forecasts predict an annual rate of inflation of 10.1 % in 2008, and 9.5 % in 2009.

Transparency International rank Mozambique 111 out of the 180 countries with a score of 2.8 in their latest Corruption Perception Index. The score of 2.8 puts it in the same position as Uganda and in the lowest three countries in the group included here. Doing Business 2009 rank Mozambique 141 out of the 181 economies included. This puts Mozambique in the bottom half of its group within the Southern African Development Community (SADC). With regard to factors considered important for Norwegian investment in fisheries, Mozambique scores well under average (Table 6.6)

Table 6.6: Doing Business ranking 2009 and Norwegian fishery adjusted score - Mozambique

Ease of...	Rank Doing Business 2009	Score adjusted model
Doing Business	141	157
Starting a Business	144	144
Dealing with Construction Permits	153	153
Employing Workers	161	161
Registering Property	149	298
Getting Credit	123	12.3
Protecting Investors	38	76
Paying Taxes	88	176
Trading Across Borders	140	420
Enforcing Contracts	124	124
Closing a Business	133	13.3

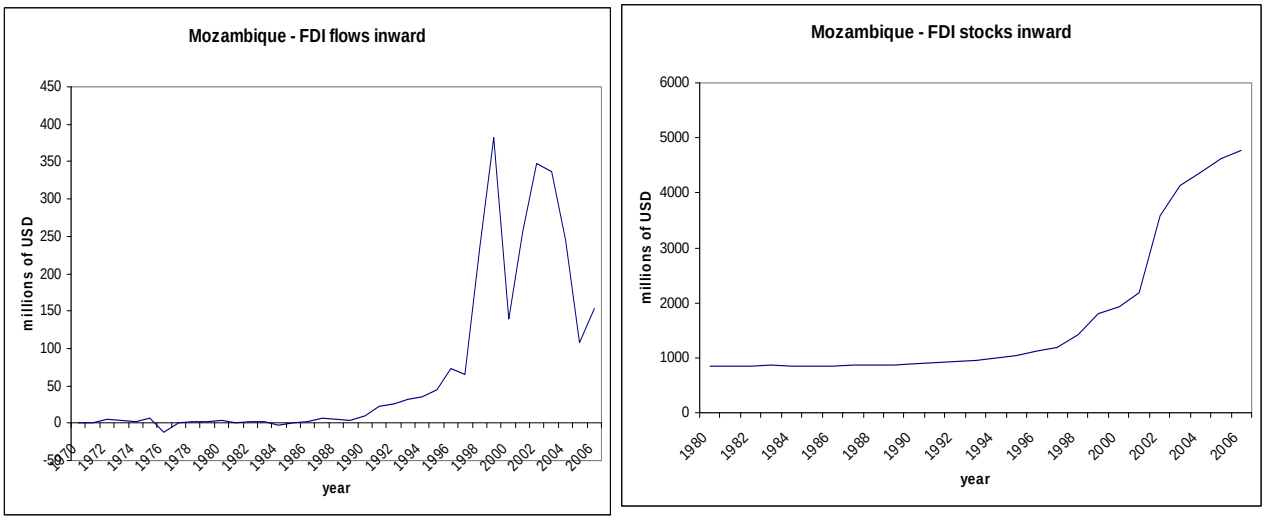
As Mozambique scores low on important factors such as trading across borders and registering property, it comes out with the poorest score in our selection of countries.

6.6 Foreign investments and trade in fish

As a means of boosting private sector activities and FDI, Mozambique has made significant efforts to upgrade its infrastructure. The massive effort in the Maputo corridor is an important project given the close economic ties between Mozambique and South Africa and the potential benefits of improved bilateral transport links. It is hoped that the combination of better road, rail and port services will serve as a catalyst for secondary development along the whole corridor. In the telecommunications sector, some services have been upgraded.

Mozambique's FDI stocks as a percentage of their GDP was to 65.4 % in 2006, and the FDI stocks in 2006 amounted to USD 4.8 billion. Their annual average of inward FDI flows from 2003-2006 was USD 210.7 million. The FDI flows in the primary sector are all about their mining, quarrying and petroleum industry. Of the total FDI flow of approximately USD 153 million in 2006, two third of it are from these industries. The forestry and fishing sector have both a negative FDI flow in 2006 after a substantial peak in 2005. Mauritius and South Africa are the two largest investors in Mozambique.

Figure 6.4: Inward FDI flows (1970-2006) and inward FDI stocks (1980-2006) - Mozambique

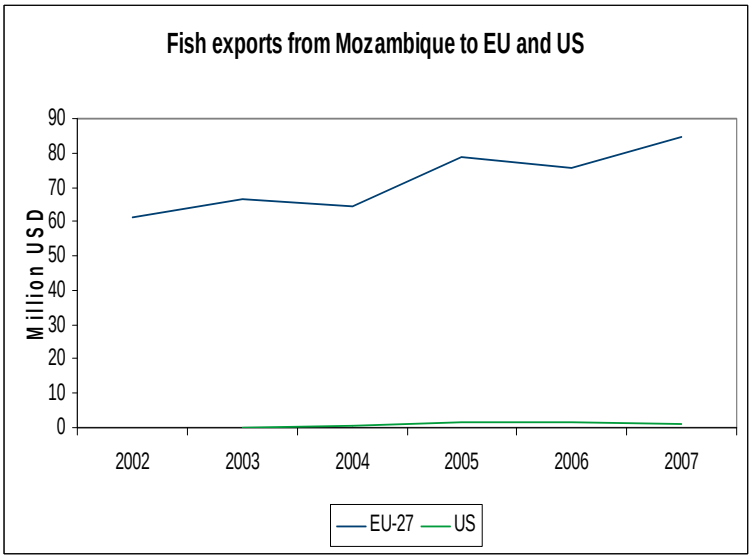


Source: UNCTAD 2008

The inward FDI stock in Mozambique increased from the late 1990s and onward (Figure 6.3). Whether the increase will continue after 2006 is a bit uncertain. The inward FDI flow experienced a sharp increase and peaked in 1999, but has been very volatile since.

EU-27's import of fish products from Mozambique has been steady increasing in the 2000s. In 2002, the import amounted to USD 61 millions, and in 2007 the import had increased to approximately USD 85 millions. The US import is more modest with a peak in 2006 on USD 1.8 millions (Figure 6.5).

Figure 6.5: EU and US import of fish products from 2002-2007 - Mozambique

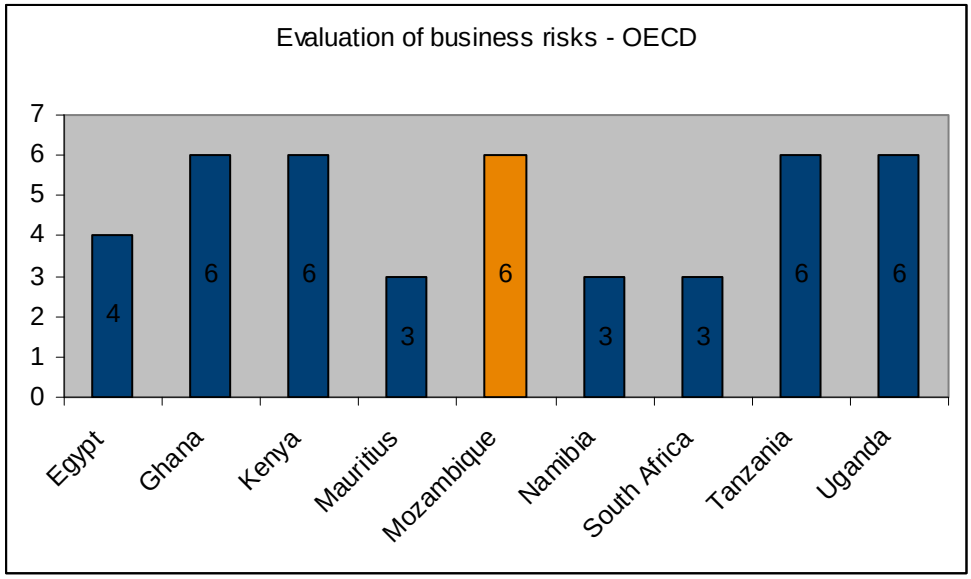


Source: UN Comtrade 2008

The EU's import of fish products from Mozambique places it in the bottom in our selection with only Egypt lower. The import from Mozambique and Kenya are more or less equal in size. This puts Mozambique well behind countries as Namibia and Mauritius. The EU's import from Mozambique has steadily increased since 2002, and amounts to approximately USD 84 millions in 2007.

6.7 Security conditions and evaluation of risks

Figure 6.6: Evaluation of business risks, OECD - Mozambique



OECD's June 2008 classification rates Mozambique 6 on their risk scale. This is equivalent to a credit rating of B to B-. ViewsWire rates Mozambique's economic structure to a CCC, while the currency risk, banking sector risk and country risk get rated BB. The political risk are rated B.

The ONDD rates Mozambique 3 on their scale from 1 to 7. The commercial risk is rated C.

6.8 Sector SWOT analysis and conclusions

As shown below, though Mozambique has huge natural resource potential, particularly for aquaculture, but also for sourcing raw materials, its current political, institutional and structural constraints tell against its selection as primary choice for external commercial investment. However, the presence of a major Norwegian development programme related to the sector provides a counterbalancing factor.

Table 6.7: SWOT analysis - Mozambique

Strengths • Relatively undeveloped coastal/marine resources • Good inland water resources • Some aquaculture and processing skills, and some support capacity • International tourist destination • The one-stop-shop for exports	**Weaknesses** • Small-scale and relatively uncoordinated sector • Resource management uncertainties • Tourist sector stagnation, constraints in food service development • Governance and transparency concerns • Lack of ability to monitor and control marine fisheries.
Opportunities • Integrated approach to value addition and export using diverse national resources • Support services for aquaculture development • Possible aquaculture production with franchise/nucleus approach • New sector policy underdevelopment	**Threats** • Political and economic instabilities; public sector constraints; • Other national/client interests competing for coastal or lake resources • Illegal fishing

That said, there could be good returns from a longer-standing, possibly low profile involvement with local partners, gaining secure access to resources and developing local staff and market connections. At present, national commercial interests and those of the larger regional groups (e.g. RSA) are likely to have a notable competitive advantage, and other things being equal, this would also count against it for immediate consideration.

6.9 Preliminary recommendation for relevant areas for investment potential

Partly because of the social and cultural context, but primarily because of uncertainties about governance and the business environment, Mozambique is unlikely to become one of the first choices for this review. In most cases, there are likely to be similar kinds of project opportunities in countries where commercial conditions and the ease of establishment are better or allow more rapid development and financial realisation. However, the major resources involved, and the strategic potential of global development and trade are such that Mozambique would merit longer-term engagement, perhaps through developing partnerships and capacity building over a period of time.

7 Namibia

7.1 Sector description – aquaculture primarily

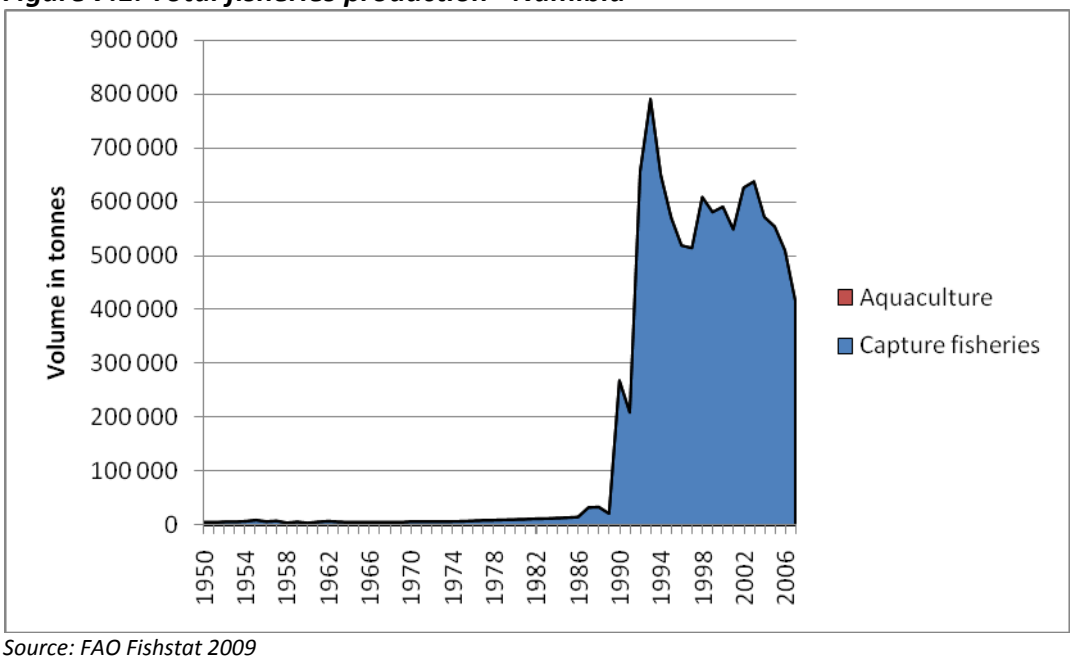
7.1.1 Fisheries

Namibia historically has had one of the most productive fishing grounds in the world, due primarily to the Benguela Current, one of the four global eastern boundary upwelling systems, which support diverse and highly productive fish stocks. Fisheries are almost entirely industrial with some recreational fishing, and no artisanal fishing.

The marine fishing industry is well developed and relatively well managed. However, Namibia's' two most economically important commercial fisheries face serious economic challenges. Its small pelagic fishery has for the past 2 seasons been allocated a 0 TAC, while the hake TAC has continually been significantly reduced. In 2007 a month long closed season was introduced for the first time to reduce pressure on the hake stocks. However other stocks such as lobsters and horse mackerel remain relatively stable.

Inland fisheries are much less important economically, but are important in supplying fish protein to populations in the Caprivi and Okavango regions in the north-east where there are around 1 million hectares of flood-plain wetlands with fisheries potential. FAO source suggests 1,500 t of freshwater fish per annum.

Figure 7.1: Total fisheries production - Namibia



Source: FAO Fishstat 2009

NB: Until 1990, Namibian fisheries statistics were not registered separately, but were included in South Africa's statistics since Namibia was being governed by South Africa until independence in 1990.

Table 7.1: Capture fisheries production – Namibia

Species	2001	2002	2003	2004	2005	2006	2007
Aquatic animals	44	2,193	139	-	19	.	20
Aquatic plants	800	968	408	.	.	.	.
Crustaceans	2,706	2,829	2,378	2,681	2,661	2,522	4,266
Freshwater fishes	2,000	2,000	2,500	2,500	2,800	2,800	2,800
Marine fishes	542,473	617,084	631,226	564,819	548,008	503,602	407,278
Molluscs	775	993	984	1,708	507	471	1,154
Whales, seals, aquatic mammal	44,223	37,670	34,000	31,971	64,167	83,045	34,728
TOTAL	**548,798**	**626,067**	**637,635**	**571,708**	**553,995**	**509,395**	**415,518**

FAO Fishstat 2009 - Volume in tonnes

Table 7.2: Aquaculture production – Namibia

Species	2001	2002	2003	2004	2005	2006	2007
Blue mussel	10	10	10	10	10	10	-
Freshwater fishes nei	10	15	15	15	15	15	15
Gracilaria seaweeds	20	38	67	67	67	70	27
Pacific cupped oyster	30	25	25	25	25	25	10
TOTAL	**70**	**88**	**117**	**117**	**117**	**120**	**52**

FAO Fishstat 2009 - Volume in tonnes

Table 7.3: Fishery exports – Namibia

	2001	2002	2003	2004	2005	2006
Tonnes	342,132	363,830	341,711	335,287	287,797	431,174
USD 1000	330,327	291,749	332,362	362,484	376,924	458,531
Average value (USD/kg)	0.97	0.80	0.97	1.08	1.31	1.06

FAO Fishstat 2009

Table 7.4: Fishery imports – Namibia

	2001	2002	2003	2004	2005	2006
Tonnes	48,138	21,307	16,723	24,530	19,232	14,717
USD 1000	13,132	9,375	9,423	19,732	22,063	20,204
Average value (USD/kg)	0.27	0.44	0.56	0.80	1.15	1.37

FAO Fishstat 2009

Table 7.5: Fisheries commodities production - Namibia

Commodity	2000	2001	2002	2003	2004	2005	2006
Fish, canned	32,497	34,000	41,258	20,000	25,000	21,869	1,000
Fish, fresh, chilled or frozen	131,936	101,142	92,470	65,900	61,100	130,403	152,184
Meals	27,096	26,000	24,000	25,000	23,000	23,000	23,000
Oils	2,000	.	.	.	.	1,887	.
TOTAL	**193,529**	**161,142**	**157,728**	**110,900**	**109,100**	**177,159**	**176,184**

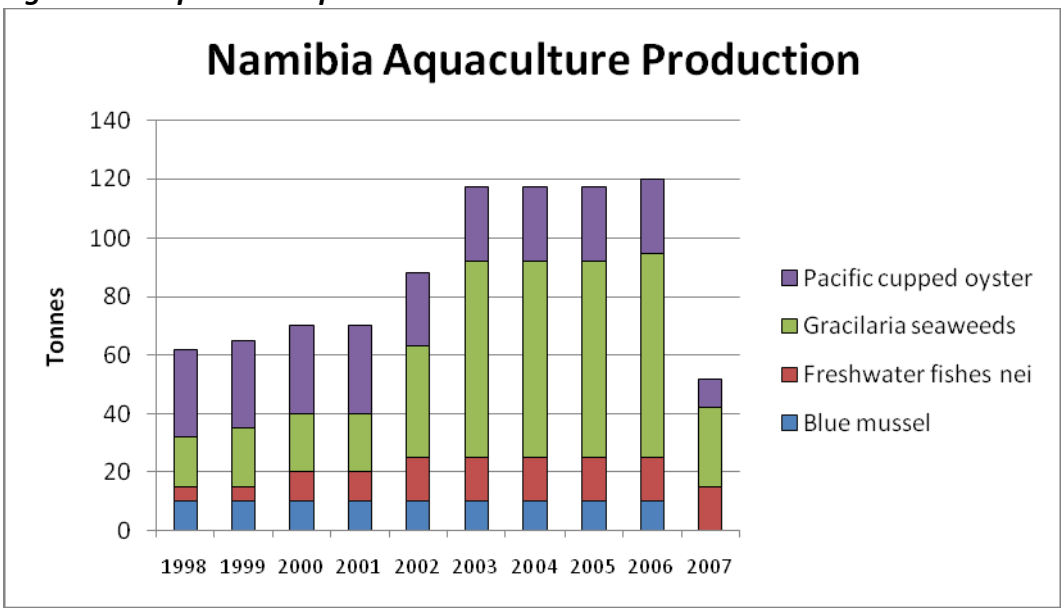
FAO Fishstat 2009 - Volume in tonnes

7.1.2 Aquaculture

Commercial marine aquaculture (mariculture) is currently dominated by oyster production in Walvis Bay, Swakopmund and Lüderitz. Both Pacific oyster (*Crassostrea gigas*) and European oyster (*Ostrea edulis*) are grown as well as mussels, abalone and seaweed. Investors have shown a keen interest in entering the mariculture sector especially after the establishment of two Aquaparks in the Walvis Bay harbour area at the end of of 2006. AquaPark No 1 is 1,250 ha in size and AquaPark No. 2 is 365 ha. The establishment of these two parks, which fall under the jurisdiction of NamPort, has enabled the Ministry of Fisheries and Marine Resources to guide and to ensure that the development of oyster and scallop farming activities are conducted in an orderly manner as prescribed by importing countries such as the EU and Asian markets.

In 2006 there was considerable commercial investment in oyster cultivation, particularly in Walvis Bay at Aqua Park No 1. Oysters are exported to South Africa as well as to the Asian market. There has been a steady increase in oyster production: based on the weight of an average live oyster to be 60 grams (medium size), the total number of oysters produced increased from 4,1 million individuals exported in 2003 to 11,2 million oysters in 2006. With the recent and growing investment in farming of this lucrative export product, the number of oysters to be harvested per annum was predicted to reach over 30 million individuals by 2008 and to continue to increase to over 50 million by 2010. However, the recent red tide events in early 2008 have served a blow to the industry with servere economic losses to the major companies, who are now struggling to re-establish themselves.

Figure 7.2: Aquaculture production 1998-2007- Namibia



Source: FAO Fishstat 2009

Scallops are another kind of high-value of shellfish that show great promise in Namibia waters, with pilot cultivation over the last year proceeding with high growth rates in Walvis Bay. The abalone industry in Lüderitz continues to flourish with expansion expected.

Namibia's freshwater aquaculture sector is very small. However, good freshwater aquaculture development potential exists along rivers such as the Okavango, Kunene, Orange and Zambezi, as well as in dams. Commercial freshwater aquaculture of tilapia and catfish is already undertaken in Onavivi and Hardap. In addition, the Ministry of Fisheries and Marine Resources and the Ministry of Trade and Industry have developed six community-based intensive freshwater aquaculture facilities in Omusati, Kavango and Caprivi regions producing tilapia and catfish for local distribution. Fingerings are also being produced and distributed to small scale farmers in the north for their own production.

The Ministry has developed two hatcheries Onavivi Inland Aquaculture Centre (IAC) and Hardap dam, which produce fingerlings on a large scale for distribution to small scale fish farmers and communities. The two main objectives of the IAC is to provide fingerlings to the small scale fish farmers and communities and to ensure that the fish farmers receive adequate training. However, the surplus fingerlings at Onavivi are grown to market size and harvested annually. During November 2006 catfish were harvested for the first time at Onavivi. The 7.8 t of catfish and 19.4 t of tilapia that were harvested were all processed in the newly erected fish processing facility and sold to the rural population and business community.

The Government has identified aquaculture as a top priority for development. The Government foresees the role of aquaculture of freshwater species to enhance food security, generate income and improve rural livelihood. It is again envisaged that by the year 2030, aquaculture will have grown to become a thriving industry. The Ministry is also aiming to adopt a two-pronged approach for the development of this sector. One is freshwater aquaculture, aimed at alleviating poverty, creating employment and satisfying local consumption needs. The second approach involves seawater aquaculture, which includes the culture of oysters and other molluscs for export.

On the 1st of October 2003, the Directorate of Aquaculture was established within the Ministry of Fisheries and Marine Resources, with the appointment of a Director, a fishery biologist and a secretary. Currently a total of 61 staff are employed out of an approved staff structure of 92. The Directorate of Aquaculture is based at Head Office, Windhoek with an additional 8 regional offices located throughout Namibia.

7.2 Skills, education and support services

Training courses are offered at the Namibia Maritime and Fisheries Training Institute (NAMFI) that play an important role in the training of Namibians for the fishing industry. Since its establishment, the institution has trained approximately 500 students in navigation, engineering, safety at sea and Monitoring, Control and Surveillance. The Ministry, through it Marine Resources Fund, provides financial assistance to its staff members to further their studies in fields relevant to their daily duties. The Ministry bursaries are awarded on yearly basis and about 44 staff member have benefited from the scheme so far, pursuing various degrees, diplomas and certificate, in Science, Fisheries and Management Sciences, Aquaculture Management and Administration, both locally and abroad on full-time and part-time basis. In 2005, priority has been placed on aquaculture where staff members attended courses covering quality control and monitoring of aquaculture farming management. The Ministry also provides training through workshops and seminars organized on a national and regional basis.

The University of Namibia hosts a BSc in fisheries and aquatic science that attracts students from Namibia and wider a field in the SADC region.

The MFMR through its Directorate for Resources Management, continue to conduct annual scientific research aimed at quantification of the resources and the state of the environment. The main activities include stock assessment for those species managed by TAC-hake, pilchard, horse mackerel, and orange rouhgy, rock lobster, monk fish, deep seared crab and seals.

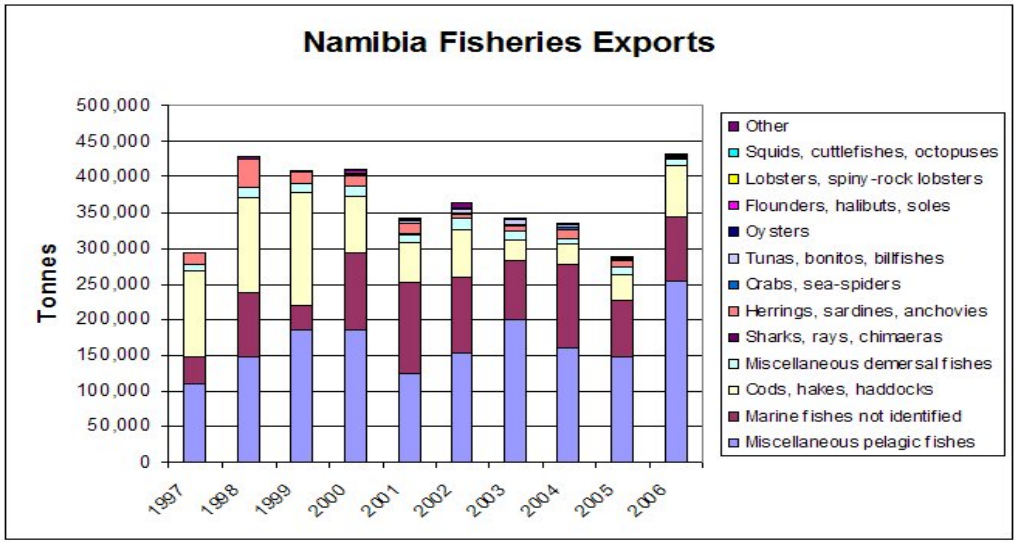
7.3 Physical and marketing infrastructure

Physical infrastructure is variable, though for fishing, port and service facilities they are good, concentrated in only two major fishing ports – Walvis Bay and Lüderitz, which helps in respect to fleet management. Most of the processing plants and cold storage are located in Walvis Bay.

There is a significant processing industry and a large proportion of the catch is exported (Figure 7.3). The fishing industry has grown to the extent that it is currently Namibia's second largest export earner of foreign currency after mining. Resources available for export are horse mackerel and hake. Namibian

horse mackerel is the dominating species in terms of volume in the Namibian waters. Hake products are of good quality and increasingly in demand in EU and other international markets for the catering and retail sectors. Other marine exports include rock lobster; crab; oysters; monk; tuna; pilchards, seaweed, anchovy, redeye, snoek, sole, kingklip, panga, John dory, angelfish, shark, swordfish, kob, barbel, squid, cardinal fish, Cape guarnard, grenadier, Jacopever, chub mackerel, octopus and mullet. Cultured oysters is exported to South Africa and South-East Asia, especially Singapore, Hong Kong and China, while cultured abalone is exported to Japan and China.

Figure 7.3: Fisheries Exports 1997-2006 - Namibia



Source: FAO Fishstat 2008

The country exports more than 90 % of its fisheries production in various product forms, primarily to markets including the EU, USA, the Far East as well as African markets. In 2004 73 % of Namibia fish exports went to Spain with an exported value of USD 246.3 million. In 2006 the total value of fisheries exports was USD 458.5 million.

Namibia is basically a raw materials exporter. Although there was a short period in the early 1990s when exports of canned fish were quite important, this has declined significantly. In 2004, fresh, chilled or frozen fish accounted for 91 %of Namibian fish exports. The domestic market for Namibia's population of 2 million is relative small, hence greater access to the international market is important to facilitate the diversification and value addition policies in the fisheries processing sector. Therefore, both market share and market entry are important to Namibia as foreign exchange earnings assist the country in meeting its food import requirements. On the other hand fish imports are limited and mostly comprise canned products from South Africa.

The largest fishing company in Namibia is NovaNam Ltd., with 51 % of voting equity owned by Namibian financial institutions, Namibian private investors and company staff and with operations in Lüderitz and Walvis Bay. A member of the Pescanova Group, the leading branded fish and seafood products company in Spain, NovaNam's Lüderitz waterfront plant employs 1,950 staff and is capable of processing more than 100 t of fish a day, serviced by 19 fishing vessels .

7.4 Legislative framework

The Sea Fisheries Act of 1992 is considered a cornerstone of fishing management in Namibia. It was revised at the end of the 1990s and replaced by the Marine Resources Act (act No 27 of 2000) which now represents the primary marine fisheries legislation. The new Act incorporates international best practice for fisheries management and incorporates the key elements of the international agreements entered into by Namibia. The Act is based on the strategy to provide for the conservation of the marine ecosystem and responsible utilization, conservation, protection and promotion of marine resources on a

sustainable basis; for that purpose to provide for exercise of control over marine resources. Various regulations have been promulgated under the act. This established the terms and condition for all vessels and fishers operating within Namibia's EEZ. In line with Namibia's obligations as a flag state, regulations also prescribe the activities of Namibia flag vessels operating outside the national EEZ. Under The Marine Resources Act (2000), a Marine Resources Advisory Council (MRAC) has been established, which provides advice to the Minister on Fisheries policy, management and development issues.
Other important legal documents are:

- The Marine Resources Regulations (2001),
- Namibia's Marine Resources Policy (2004) and Territorial Sea and Exclusive Economic Zone of Namibia Act (1990),
- Policy statement on granting of right of exploitation to utilize marine resources and on the allocation of fishing quotas.
- The Inland Fisheries Resources act (No.1 of 2003), which governs inland fisheries.

Namibia is developing a coordinated approach to aquaculture development and regulation. Central to this effort must be the creation of institutional arrangements that promote aquaculture and coordinate the various agencies and other entities involved in regulation and support. Currently in place and in force are:

- Aquaculture Policy Towards Responsible development of Aquaculture (2001)
- The Aquaculture Act (No. 18 of 2002)
- Aquaculture (Licensing) Regulations (3rd December 2003)

Current policy for this developing sector is laid out in the policy paper: *Towards the Responsible Development of Aquaculture (2001)*. Under this policy, Namibia is committed to observing the principle of optimum sustainable yield in the exploitation of living natural resources and ecosystems. The Government therefore has an obligation to promote and regulate responsible and sustainable development and management of aquaculture within national water bodies of all types. The main objective of Namibia's aquaculture policy is the responsible and sustainable development of aquaculture to achieve socio-economic benefits for all Namibians and to secure environmental sustainability. The policy rests on four strategies:

a) Establishing an appropriate legal and administrative framework for aquaculture, including establishing systems of tenure for commercial aquaculture;
b) Establishing appropriate institutional arrangements for aquaculture;
c) Maintaining genetic diversity and the integrity of the aquatic ecosystem; and
d) Ensuring responsible aquaculture production practices.

However, the economic support to the industry should also be incorporated as an objective to ensure that seed money to stimulate the industry is made available. In 2002, the Aquaculture Act was passed by Parliament and came into force in June 2003. This prescribes, *inter alia*, the procedure for obtaining aquaculture licences, monitoring, regulation, processing, marketing, environmental safety measures and consumer health and safety issues.

7.4.1 Description of the legal framework for investment and business enterprise and trade

The Foreign Investment Act outlines the legal framework in which investors can operate in Namibia and provides the basic guarantees for an enabling environment conducive to the private sector. It makes provision for the unhindered conduct of business activities by foreign nationals and establishes "a level playing field" with foreign investors assured of equal legal status and tax treatment with locally owned or domiciled businesses. The Act also guarantees the availability of foreign currency for the transfer of

profits and proceeds of sale as well as recourse to international arbitration in the case of disputes, while investors may also be eligible for the Certificate of Status Investment.

7.5 Business environment

The country's sophisticated formal economy is based on capital-intensive industry and farming. However, Namibia's economy is heavily dependent on the earnings generated from primary commodity exports in a few vital sectors, including minerals, livestock, and fish. Furthermore, the Namibian economy remains integrated with the economy of South Africa, as the bulk of Namibia's imports originate there. Since independence, the Namibian Government has pursued free-market economic principles designed to promote commercial development and job creation to bring disadvantaged Namibians into the economic mainstream. To facilitate this goal, the government has actively courted donor assistance and foreign investment. The liberal Foreign Investment Act of 1990 provides for freedom from nationalization, freedom to remit capital and profits, currency convertibility, and a process for settling disputes equitably.

Namibia had a GDP of USD 6,3 billion in 2006, and an annual growth rate of 4,6 %. The GDP per capita was USD 2,990 in 2005 and the inflation rate was 7 % in 2008. The forecast for 2008 predicts an inflation rate of 9.2 % in 2008, and a 6.3 % in 2009. Namibia is rich on natural resources like diamonds, uranium, gold and copper, in addition to fisheries and wildlife.

The Transparency International rank Namibia 57 with a scare of 4.5 in their Corruption Perception Index for 2008. The Doing Business 2009 ranks Namibia 51 out of the 181 economies included. This makes Namibia the third best country to invest in our selection. However, Namibia scores quite low on important factors as trading across borders and starting a business, Namibia scores less than average in our selection of countries.

Table 7.6: Doing Business ranking 2009 and Norwegian fishery adjusted score - Namibia

Ease of...	Rank Doing Business 2009	Score adjusted model
Doing Business	51	126
Starting a Business	112	112
Dealing with Construction Permits	38	38
Employing Workers	34	34
Registering Property	129	258
Getting Credit	12	1
Protecting Investors	70	140
Paying Taxes	96	192
Trading Across Borders	150	450
Enforcing Contracts	36	36
Closing a Business	52	5

Due to a relatively low score on important factors for Norwegian businesses in fisheries, Namibia comes out as average in our selection of countries.

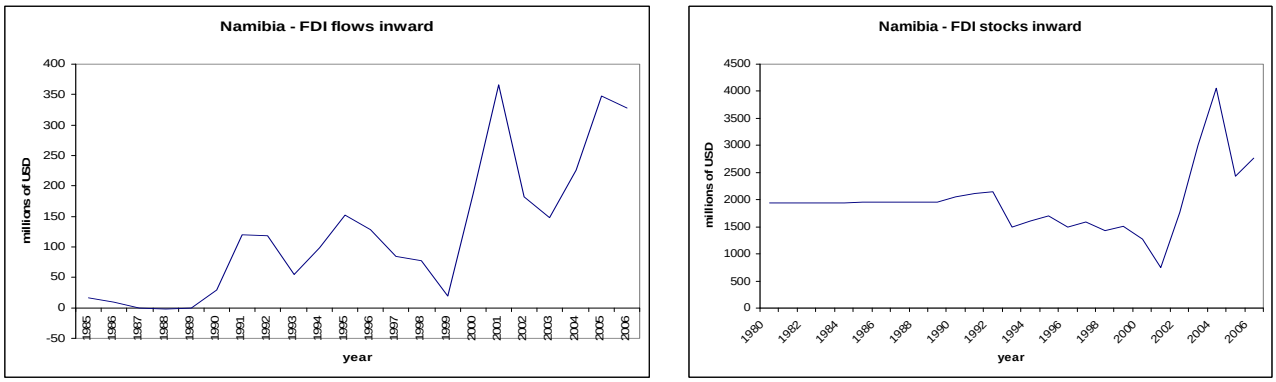
7.6 Foreign investments and fish trade

Namibia has created Export Processing Zone (EPZ) regimes that offer tax and duty-free environment for foreign investors. The EPZs have two tailor-made banking accounts, EPZ Customer Foreign Currency Account and the EPZ non-resident account to address the operational and foreign exchange requirements of investors. The Ministry of Trade and Industry provides generous tax incentives for potential foreign investors in the EPZs. Manufacturing companies enjoy a 10 % tax rebate for the first ten

years of operation, a special 20 % write-off of special building allowance, tax exemption for export promotion activities and a 25 % tax-free deduction for production line wages and training.

Namibia's FDI stocks as a percentage of its GDP was 43.8 % in 2006, and amounted to USD 2,768 billion. The annual average of FDI flows between 2003 and 2006 was USD 262.4 millions. South Africa is by large the biggest actor as geographical origin of FDI stocks. The finance sector is the primary receiver of stock investments, followed by mining and quarrying industry. Namibia has had an increase in FDI flows and FDI stocks, with a peak in FDI stocks in 2004 (Figure 7.4).

Figure 7.4 Inward FDI flows (1985-2006) and inward FDI stocks (1980-2006) - Namibia

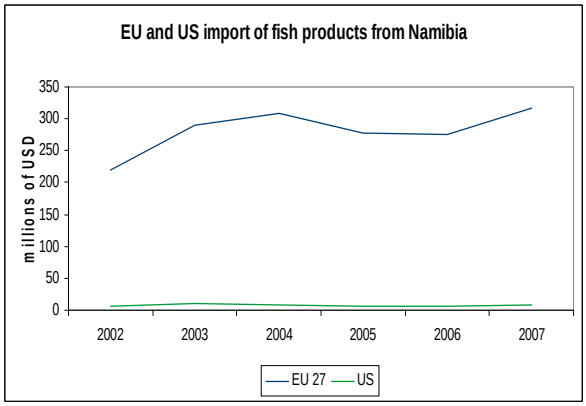


Source: UNCTAD 2008

Neither the FDI flows nor FDI stocks in Namibia are a story of steady increase. Namibia experienced a drop in the inward FDI stocks in 2001, and then a sharp increase to a peak in 2004. The FDI flows show a picture of ups and downs with a peak in 2001. The amount of FDI places Namibia in the bottom of our selection in attracting foreign investments.

The EU has a substantial import of fish products from Namibia. In 2002, this import was calculated to USD 219 million, while this number had grown to USD 317 millions in 2007. The US import of fish products from Namibia decreased after peaking in 2003. In 2007, the import increased slightly to USD 7.7 million (Figure 7.5).

Figure 7.5: EU and US import of fish products - Namibia

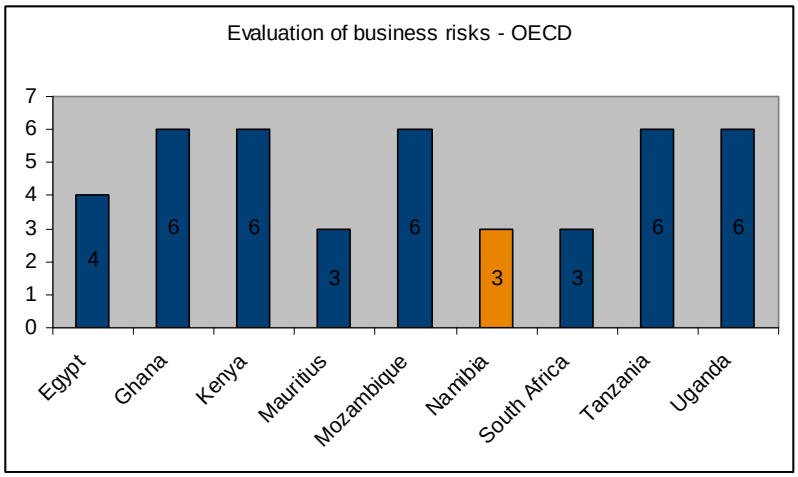


Source: UN Comtrade 2008

In our selection of countries, Namibia is placed in the top two when it comes to EU's import of fish products. Namibia, together with South Africa, is by far the biggest actor in this group of countries. The import amounts to over USD 300 million a year, and this is approximately USD 100 million more than the country in third place, Mauritius.

7.7 Security conditions and evaluation of business risks

Figure 7.6: Evaluation of business risks, OECD - Namibia



In the latest OECD classification of June 2008, Namibia gets classified as 3. This is equivalent to a credit rating of BBB+ to BBB-. ViewsWire rates Namibia as triple B on every category except the sovereign risk where it gets an A. The ONDD rates Namibia 2 on their political risk scale from 1 to 7. The commercial risk are rated B.

7.8 Sector SWOT analysis and conclusions

The primary features of Namibia are its major resource base and trading position, coupled with good governance and very positive government support for sectoral development, including a proactive approach to aquaculture. The initial scoping of potential countries suggested that fisheries value adding was less likely to be attractive for Norwegian commercial interests.

Table 7.7: SWOT analysis - Namibia

Strengths • Relatively undeveloped coastal/marine resources • Good inland water resources • Some aquaculture and processing skills, and some support capacity • International tourist destination • The one-stop-shop for exports	**Weaknesses** • Small-scale and relatively uncoordinated sector • Resource management uncertainties • Tourist sector stagnation, constraints in food service development • Governance and transparency concerns • Lack of ability to monitor and control marine fisheries.
Opportunities • Integrated approach to value addition and export using diverse national resources • Support services for aquaculture development • Possible aquaculture production with franchise/nucleus approach • New sector policy underdevelopment	**Threats** • Political and economic instabilities; public sector constraints; • Other national/client interests competing for coastal or lake resources • Illegal fishing

7.9 Preliminary recommendation for relevant areas for investment potential

The significant resource base, generally good business environment and the strong interest and support for aquaculture development make Namibia a likely option for further assessment. The main focus at this stage is on higher value molluscs – abalone and scallops, for which market development will be an important factor, as regional and global competition in highest value markets are increasing. Other areas of potential would include development of aquaculture of other high value species.

8 South Africa

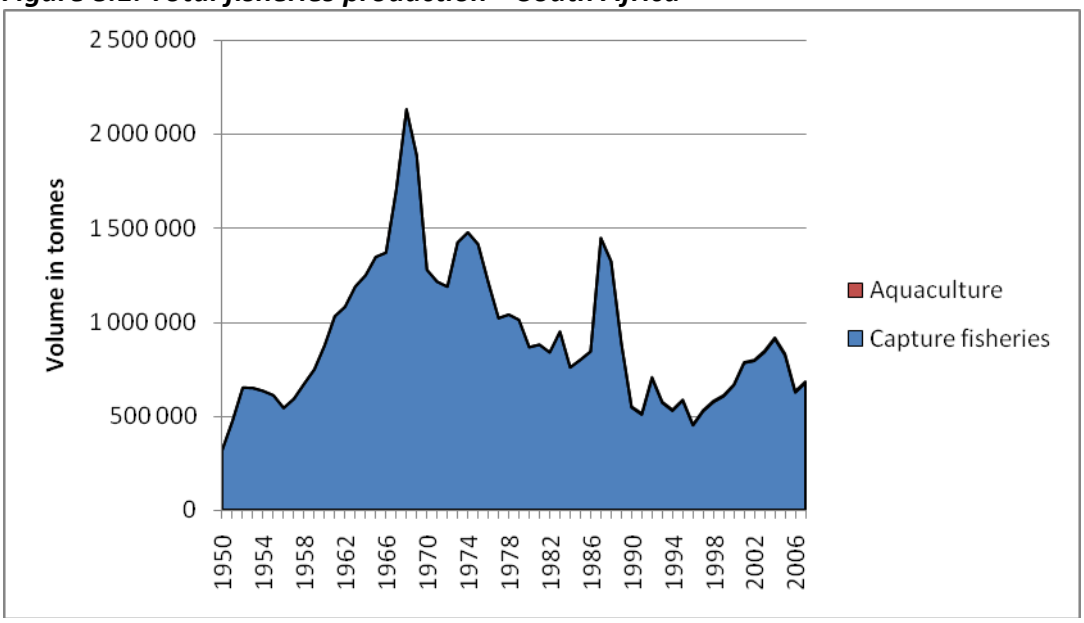
8.1 Sector description – aquaculture only

South Africa has a coastline of some 2,798 km, extending from the Orange River in the west, on the border with Namibia, to Ponta do Ouro in the east, adjacent to Mozambique. The western coastal shelf is highly productive, in common with other upwelling ecosystems around the world, while the east coast is considerably less productive but has high species diversity, including both local and Indo-Pacific species.

Significant changes have taken place in South Africa's fisheries since 2003, with the issuing of medium-term rights to the end of 2005. At present there is an ongoing rights allocation process aimed at renewing fishing rights in most fishing sectors from 10 to 15 years. Fisheries are, however, still a relatively small sector within the national economy of South Africa. The whole South African fishing industry (in 2003) was estimated to generate approximately R 2.63 billion (approximately US$ 404 million) of wholesale revenue per annum to South Africa's Gross Domestic Product (GDP). Thus the sector's overall contribution to national GDP is about one percent. Expansion of the fishing industry is limited by the natural productive capacity and sustainability of the living marine resources.

Industrial fisheries in South Africa started in the late 1890s, and escalated rapidly thereafter. By the 1960s, catches in several South African fisheries had exceeded sustainable yields and there were sharp declines in some key stocks, prompting initiatives to improve the scientific basis for management of the major fisheries.

Figure 8.1: Total fisheries production – South Africa



Source: FAO Fishstat 2009

Table 8.1: Capture fisheries production – South Africa

Species	2001	2002	2003	2004	2005	2006	2007
Aquatic animals	-	-	-	-	-	-	-
Aquatic plants	32,138	26,600	17,342	22,741	6,619	6,600	6,600
Crustaceans	3,054	3,574	2,791	3,490	4,067	3,117	3,682
Freshwater fishes	900	900	900	900	900	900	900
Marine fishes	742,472	754,370	811,057	865,890	801,810	607,299	655,540
Molluscs	4,076	8,097	8,188	17,826	10,889	7,300	10,449
Whales, seals, aquatic mammal	37	78	70	78	77	-	-
TOTAL	**782,640**	**793,541**	**840,278**	**910,847**	**824,285**	**625,216**	**677,171**

FAO Fishstat 2009 - Volume in tonnes

Table 8.2: Aquaculture production – South Africa

Species	2001	2002	2003	2004	2005	2006	2007
Aquatic plants	140	1,000	2,732	2,750	2,900	2,900	2,900
Carpet shells	<0.5	<0.5	<0.5	-	-	-	-
Common carp	28	12	8	3	<0.5	-	-
Cyprinids	<0.5	<0.5	<0.5	-	-	-	-
Crayfishes	<0.5	<0.5	<0.5	-	-	-	-
European flat oyster	<0.5	<0.5	<0.5	-	-	-	-
Giant tiger prawn	<0.5	<0.5	<0.5	-	-	-	-
Gracilaria seaweeds	12	50	92	95	100	100	100
Indian white prawn	120	158	125	30	15	-	-
Kuruma prawn	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
Largemouth black bass	9	9	5	2	<0.5	-	-
Marron crayfish	3	3	3	2	2	2	2
Mediterranean mussel	600	429	623	640	472	542	466
Mozambique tilapia	100	100	170	30	25	30	30
Mullets	15	15	<0.5	<0.5	<0.5	-	-
Nile tilapia	100	100	70	180	250	250	250
North African catfish	20	20	240	240	100	100	100
Pacific cupped oyster	188	272	255	220	250	280	158
Perlemoen abalone	373	429	515	760	830	833	783
Rainbow trout	1,250	1,500	1,750	1,000	950	1,000	1,000
Turbot	-	2	14	2	1	-	-
TOTAL	**2,970**	**4,105**	**6,602**	**5,954**	**5,895**	**6,037**	**5,789**

FAO Fishstat 2009 - Volume in tonnes

Table 8.3: Fishery exports – South Africa

	2001	2002	2003	2004	2005	2006
Tonnes	155,941	168,678	183,462	142,601	177,045	142,551
USD 1000	284,536	321,485	395,004	419,420	444,585	406,069
Average value (USD/kg)	1.82	1.91	2.15	2.94	2.51	2.85

FAO Fishstat 2009

Table 8.4: Fishery imports - South Africa

	2001	2002	2003	2004	2005	2006
Tonnes	51,655	35,310	42,655	53,743	56,176	64,854
USD 1000	61,788	49,262	78,606	104,911	126,648	152,952
Average value (USD/kg)	1.20	1.40	1.84	1.95	2.25	2.36

FAO Fishstat 2009

Table 8.5: Fisheries commodities production - South Africa

Commodity	2000	2001	2002	2003	2004	2005	2006
Crustaceans and molluscs	9,112	6,908	8,835	12,846	13,750	13,071	12,979
Crustaceans and molluscs, canned	-	-	-	-	-	-	-
Fish, canned	3,080	2,298	1,476	719	2,080	2,644	2,917
Fish, dried, salted, or smoked	2,820	2,144	2,302	1,998	1,878	1,538	672
Fish, fresh, chilled or frozen	138,193	143,769	137,064	123,230	118,297	118,642	109,510
Meals	108,900	110,600	117,200	131,000	114,000	109,000	73,000
Oils	8,700	9,000	802	1,018	1,401	1,081	1,188
TOTAL	**270,805**	**274,719**	**267,679**	**270,811**	**251,406**	**245,976**	**200,266**

FAO Fishstat 2009 - Volume in tonnes

8.1.1 Aquaculture

Aquaculture in South Africa can be divided into freshwater culture and marine culture. Both in terms of production volume and crop value, the Western Cape is the most significant contributor to the collective aquaculture output in South Africa. In a recent benchmarking survey it was found that the Western Cape is the economic hub for aquaculture production in the country and makes the most significant contribution to GDP in terms of export based production. The survey found that 43.8 % of aquaculture producers are situated in the Western Cape, followed by Mpumalanga, KwaZulu Natal and the Eastern Cape with 12.5 % each.

The further growth of aquaculture in South Africa and the Western Cape depends on the successful integration, use and development of natural resources (water, land, climate, energy and biodiversity), human resources (labour, skills and technology), economic resources (capital, infrastructure and market access) and a facilitative regulatory environment.

Various marine and freshwater species are currently cultivated in South Africa. These include:

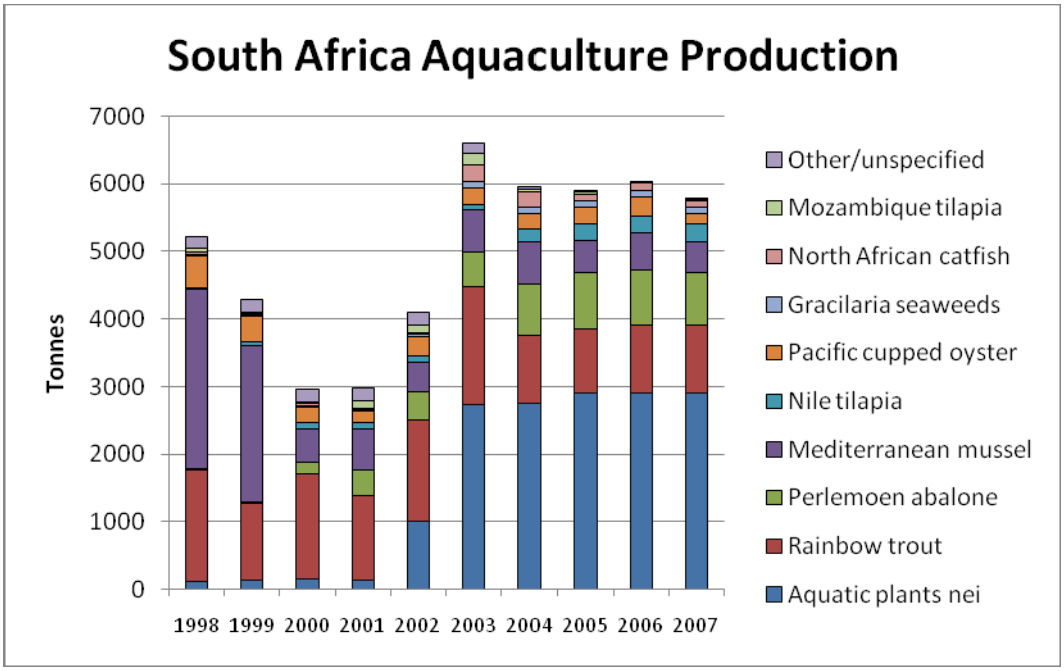
a) Marine species
- Abalone (*Haliotis midae*)
- Various marine finfish under investigation (including cob *Argyrosomus spp*.)
- Mediterranean mussel (*Mytilus galloprovinvialis*)
- Pacific cupped oyster (*Crassostrea gigas*)
- Seaweed species (*Gracilaria spp*.)

b) Freshwater species
- African catfish (*Clarias gariepinus*)
- Carp (*Cyprinus carpio*)
- Goldfish (*Carrasius auratus* and other spp.)
- Ornamental fish (various ornamental species)
- Rainbow and brown trout (*Oncorhynchus mykiss* and *Salmo trutta*)
- Largemouth bass (*Micropterus salmoides*)
- Chinese grass carp (*Ctenopharyngodon idella*)
- Koi carp (*Cyprinus carpio*)

- Marron (*Cherax tenuimanus*)
- Mozambique and other tilapia species (*Oreochromis spp*)
- Nile crocodile (*Crocodylus niloticus*)
- Water hawthorn (*Plantae aquaticae*)

Freshwater fish culture is severely limited by the supply of suitable water. However, trout or salmon farming is practised in the Western Cape and other highland areas of South Africa, and in 2006 approximately 1,000 t was produced. Other freshwater species cultivated on a small scale include catfish (*Clarias gariepinus*), freshwater crayfish (maron) and tilapia species. Mariculture is a fast developing sector, with a focus on mussels, oysters, abalone, seaweeds and prawns. Of these, aquatic plants farming is the best established, producing an estimated 3,000 t of mariculture production in 2006 (Figure 8.2). Abalone culture is now well established, centred in the Hermanus area on the Cape south coast (main companies found: Blue Star, Oceana, Marine Products, and I&J). There is also an experimental offshore farm (cage culture) off Gansbaai for salmon.

Figure 8.2: Aquaculture Production 1998-2007 - South Africa



Source: FAO Fishstat 2009

8.2 Skills, education and support services

The fishing industry in South Africa employs approximately 30,000 workers in direct employment in more than 100 workplaces and 60,000 workers in related jobs. Labour in this industry tends to be divided along gender lines, with men almost exclusively going out to sea to catch the fish and women doing the majority of on-land processing. A large proportion (62 %) of the workforce in fish processing plants is female and at least one third of the workforce is employed on a seasonal basis by the industry.

Western Cape's is home to the Marine and Coastal Management Branch of the Department of Environmental Affairs and Tourism (MCM: DEAT), four tertiary institutions with strong links to aquaculture (the Universities of Cape Town, Stellenbosch, Western Cape and the Elsenburg Agricultural College) and the Aquaculture Institute of South Africa (AISA).

8.3 Physical and marketing infrastructure

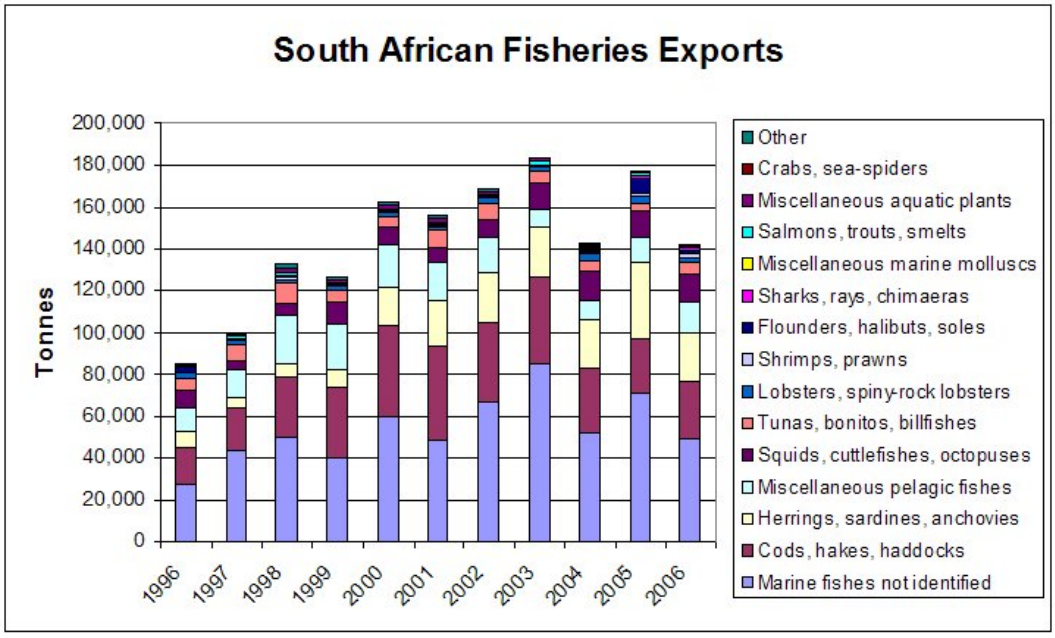
South Africa is a middle-income, developing country with an abundant supply of resources, well-developed financial, legal, communications, energy and transport sectors, a stock exchange that ranks

among the 10 largest in the world, and a modern infrastructure supporting an efficient distribution of goods to major urban centres throughout the region.

South Africa has been a member of the Southern African Customs Union (SACU) since its inception in 1969. The other SACU members are Botswana, Lesotho, Namibia and Swaziland. SACU aims to promote free trade and cooperation on customs matters among its five member states. South Africa is also a member of the Southern African Development Community (SADC), together with Angola, Botswana, Democratic Republic of Congo, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, Swaziland, Tanzania, Zambia and Zimbabwe. SADC was implementing a Free Trade Protocol, to establish a Free Trade Area in September 2000. South Africa and the EU have implemented the trade provisions of their Agreement on Trade, Development and Cooperation. Under the Agreement, South Africa and the EU will establish a free trade area over a transitional period of up to 12 years for South Africa, and up to 10 years for the EU.

South Africa's exports have mainly consisted of fresh and frozen fish, while the value also derives from fresh crustaceans and molluscs. The South Africa Fisheries exports were 142,551 t in 2006 with a total value of USD 406,069 million (Figure 8.3).

Figure 8.3: Fisheries export 1996-2006 - South Africa



Source: FAO Fishstat 2008

Fish processing plants in South Africa, as in other parts of the world, vary in technology levels, with smaller workplaces relying entirely on manual handling of fish and larger companies using modern highly automated processes. Various processing techniques are used and include heading, degutting, skinning, mincing, filleting, trimming, cooking (boiling or steaming), spice/batter application, frying, fishmeal milling, and bagging. A study of South African workplaces indicated that freezing (71 %), cutting (63 %), and degutting (58 %) ranked the most common. Among the finfish, hake (filleted, fried, spice/batter applied), pilchard (canned), and anchovy (minced into paste and fishmeal production) were commonly processed.

8.4 Legislative framework

8.4.1 For fisheries and aquaculture

Fisheries in South Africa are regulated by the Marine Living Resources Act 18 of 1998 which aims to "provide for the conservation of the marine ecosystem, the long-term sustainable utilization of marine living resources and the orderly access to exploitation ...." The Marine Living Resources Act is the foundational piece of fisheries legislation in South Africa. It is in terms of this legislation that fishing rights or quotas are allocated.

The Minister of Environment Affairs and Tourism (DEAT) is the ultimate authority responsible for fisheries and marine resources. Management of fisheries is delegated to the Deputy Director General of a Branch of DEAT – Marine and Coastal Management (MCM) in Cape Town (which is the hub of the commercial fisheries). Within MCM, four Directorates handle Finance, Research, Resource Management (with sub-directorates, regulation, allocation and verification) and Compliance (monitoring and enforcement). For legal matters, MCM and all directorates fall under a single national judicial structure with provincial magisterial districts and courts. At a regional level therefore, offences under the MLRA are normally prosecuted in the nearest district court. South Africa has also instituted "environmental courts" established in specific areas where environmental matters have a high profile (such as on the Western Cape coast where poaching of abalone is rife). Historically, prosecution of minor offences under the MLRA has been protracted and had a high probability of failure for mostly minor technical reasons. The new environmental courts utilize magistrates and prosecutors who specialize in environmental offences, increasing both the chances of successful prosecution and reducing delays in the process. On a higher level, more complex cases (such as fishing rights-based litigation) are referred to the high courts (provincial based), or to the appeal court based in South Africa's judicial capital, Bloemfontein. Litigation may also be referred to the Constitutional Court[8].

Specific legislation for Aquaculture does not currently exist in South Africa, but all laws within the legal framework apply to the sector. Apart from the overriding Constitution, human rights, right to tenure, labour - and commercial laws, many facets of Aquaculture are governed by environmental and resource related legislation, which includes the National Water Act, 1998 (Act No.36 of 198). This basket of legislation means that the use of water for Aquaculture, as entitled under the National Water Act, 1998, cannot stand separately from other legislative requirements. By default this emphasises the importance of cooperative and interdepartmental governance of the Aquaculture sector.

8.4.2 For investment and business enterprise and trade

South Africa has been revising its competition laws in recent years. An important statute that took effect in 1999 established new standards to reduce market dominance, curb restrictive practices and more closely regulate mergers. Foreign businesses can expect the business-operating environment to become increasingly competitive.

The legal system is an unusual mixture of English law and the Dutch-Roman law. The Roman-Dutch law tends to predominate in matters of property, succession and the law of sale and lease. To avoid unpleasant surprises, investors have to consult counsel on matters on establishment or expansion of business in South Africa. Acquisitions and takeovers are subject to the provisions of chapter 13 of the reconstituted 1973 Companies Act, whether the company making the take-over bid is foreign or local. The amended law contains strict provisions governing disclosure and take-over procedures. Under Competition Act 89 of 1998, parties must notify the Competition Commission within seven days of a

[8] The Minister of DEAT was recently challenged with respect to the allocation of rights in the hake trawl fishery

proposed merger that qualifies as an intermediate or as a larger merger, as defined by law. Antitrust rules empower the government to prohibit mergers deemed contrary to the public interest.

8.5 Business environment

The South African GDP in 2007 was USD 283 billion, and it had a real GDP growth rate of 5.1 %. The GDP per capita in 2007 was USD 5,900. The unemployment rate as of September 2007 was as high as 23 %. South Africa export in 2007 amounted to USD 69.7 billion, and the major markets are the US, Japan, Germany and the UK. The forecast predicts an average inflation rate of 10.3 % in 2008 affected by the high oil prices, while it will subside to 7 % in 2009. Transparency International ranked South Africa 43 with a score of 5.1 in 2008. This is the best ranking of the countries included in this study.

The Doing Business 2009 rank South Africa 32 out of 181 economies. This puts it behind Mauritius, but ahead of all the other countries included in this analysis. In our model adjusted for the special characteristics of Norwegian internationally focused aquaculture and processing industry, South Africa scores 96. As we see from the table 8.6, South Africa scores second best in our adjusted model, but scores very low the on trading across border indicator.

Table 8.6: Doing Business ranking 2009 and Norwegian fishery adjusted score - South Africa

Ease of...	Rank Doing Business 2009	Score adjusted model
Doing Business	32	96
Starting a Business	47	47
Dealing with Construction Permits	48	48
Employing Workers	102	102
Registering Property	87	174
Getting Credit	2	0.2
Protecting Investors	9	18
Paying Taxes	23	46
Trading Across Borders	147	441
Enforcing Contracts	82	82
Closing a Business	73	7

When it comes to procedures to deal with construction permits South Africa rank in the middle of its group with 17 procedures. Denmark being the benchmark here requires 6 procedures, while Namibia has 12 procedures at the top of this group. With 174 days to deal with construction permit, South Africa is in the upper half regarding this indicator. It is placed behind Namibia and Mauritius, but well ahead of Tanzania and Mozambique. The cost to deal with construction permit in South Africa is 27.5 % of income per capita. This puts it at the top of its group, and the benchmark is Malaysia with 7.5 % of income per capita.

The more difficult and costly it is to formally transfer property the greater the chances that formalised titles will quickly become informal again. South Africa requires 6 procedures to register property. This puts it in the middle of its group, behind Botswana and Mauritius, but ahead of Namibia and Mozambique.

South Africa scores 9 out of 10 on the strength of legal rights index. This is top of its group. On the strength of investor protection index South Africa scores 8 out of 10, while Mauritius scores 7.7 on this index. This is well ahead of the other countries included in our selection. The high scoring on this indicator for South Africa and Mauritius make a strong argument for potential Norwegian investors.

8.6 Foreign investment and trade in fish

Foreign direct investment (FDI) in South Africa is defined as investment by foreigners/South African residents in undertakings in South Africa/abroad in which they have individually or collectively, in the case of affiliated organizations or persons, at least 10 % of the voting rights. In compiling South Africa's balance-of-payment, the principle followed is that an effective voice is only possible if the investment involves control in the organization. In all cases, the ownership of 25 % or more of total issued voting stock or comparable ownership or voting rights is regarded as involving control.

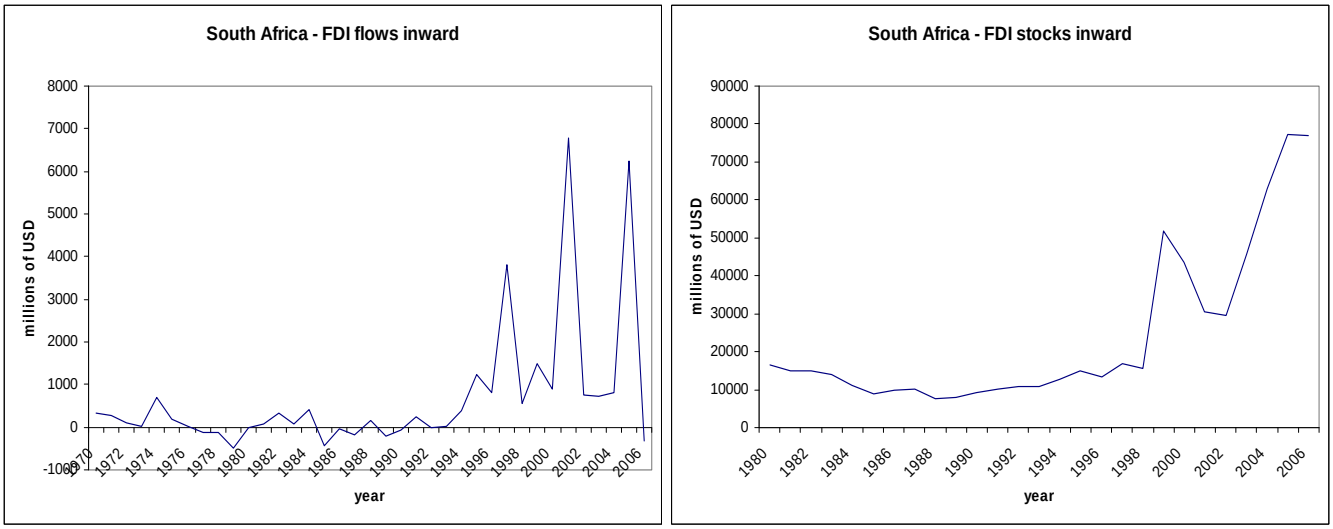
The Government of South Africa is eager to attract FDI and has put policies in place to achieve this goal. The Government does not require approval for investment and foreign investors in most cases are subject to the same laws as domestic investors. Non-residents may invest directly through a resident company, branch or partnership. The 1973 Companies Act permits the establishment of a private or public limited-liability company. Most foreign firms setting up South African subsidiaries are private companies. The Close Corporation Act of 1984 (Act 69) created a third legal form for corporations, which is well suited to small businesses. The rights of foreign owners are not legally restricted except in banking and there is no limit to the foreign ownership of investments. Foreigners are free to acquire freehold title to land anywhere in the country. Certain industrial sites offer land for long-term lease only. In many parts of the country land rights are separated from mineral rights. Firms should investigate title deeds which are public documents in local registries to check the ownership of mineral rights. These rights are the focus of a new policy that calls for transferring ownership of all domestic mineral rights to the state. The Department of Trade and Industry has recently completed a process of restructuring and started programs such as the skills support program for investors. The new investment promotion agency, Trade and Investment of South Africa, is now operational.

Over the past decade, macroeconomic management has been strong, resulting in a strengthened rand and a consistently positive rate of economic growth. Since 1994, the government has sought to liberalize trade and enhance international competitiveness by lowering tariffs, abolishing most import controls, undertaking some privatization, and reforming the regulatory environment. The government would have liked to have experienced more foreign direct investment during this time, but it did not materialize. Several large acquisitions in the banking and telecommunications sectors promise to change this for 2006 and beyond, but are not likely to add much to the government’s primary goal of increasing employment. In January 2005, Moody's assigned South Africa a sovereign debt rating of BAA1, three steps into investment grade. Standard and Poor’s and Fitch also rank South Africa at investment grade.

Black Economic Empowerment has been at the centre of business-government relations for the past several years. In January 2004, President Mbeki signed into law the Broad-Based Black Economic Empowerment Act of 2003, the legislation enacting the Black Economic Empowerment (BEE) strategy, a program to increase the participation in the economy of previously disadvantaged South Africans. The Act directed the Minister of Trade and Industry to develop a national strategy for BEE, issue implementing guidelines in the form of Codes of Good Practice, encourage the development of industry specific BEE charters, and to establish a National BEE Advisory Council to review progress on BEE. While firms are not legally required to meet BEE criteria, in practice they are less competitive if they do not. All firms must have their BEE compliance audited annually by an accredited verification agency, and be assigned a BEE compliance status based upon its BEE performance. A firm’s BEE status will factor into the award of government contracts, and contributes to the BEE compliance status of a firm’s customers.

South Africa FDI stock as percentage of GDP amounted to 34.4 % in 2006, and in real terms USD 87.7 billion. The annual average FDI flows between 2003 and 2006 was USD 1.9 billion. It is the mining and quarrying sector that attracts the biggest amount of FDI stocks.

Figure 8.4 Inward FDI flows (1970-2006) and inward FDI stocks (1980-2006) - South Africa

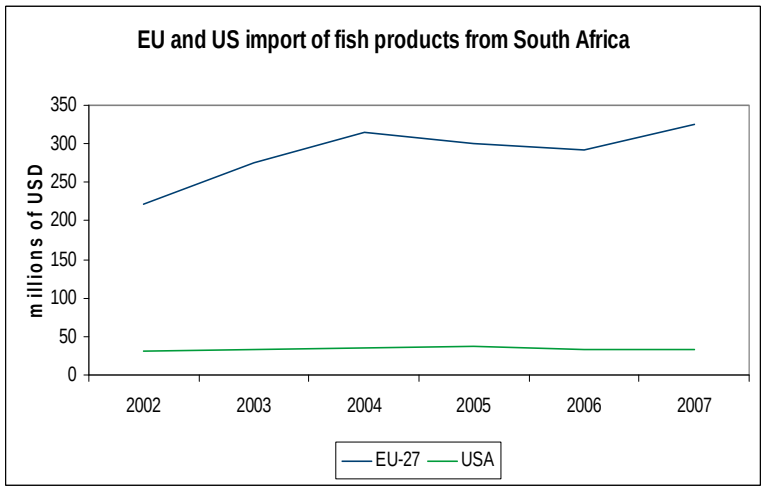


Source: UNCTAD 2008

Regarding the FDI stock, South Africa is by far the biggest receiver of the countries included in this analysis. While the FDI flows have been rather volatile with a peak in 2001, the FDI stocks have been steadily increasing except for a small drop in 2000 to 2002. South Africa attracted almost three times as much FDI in 2007 as the next country in our selection measured in FDI stocks.

The EU-27's import of fish products from South Africa has been stable in the 2000s, slightly increasing every year. In 2002, this import amounted to USD 222 million, while in 2007 this had increased to USD 324 million. US import is more modest, but has been increasing from USD 31 millions in 2002 to USD 33.6 million in 2007. This import has experienced a slight downward trend since the peak in 2005, but leaves South Africa as the biggest exporter to the US market in our selection of countries.

Figure 8.5 EU and US import of fish products - South Africa

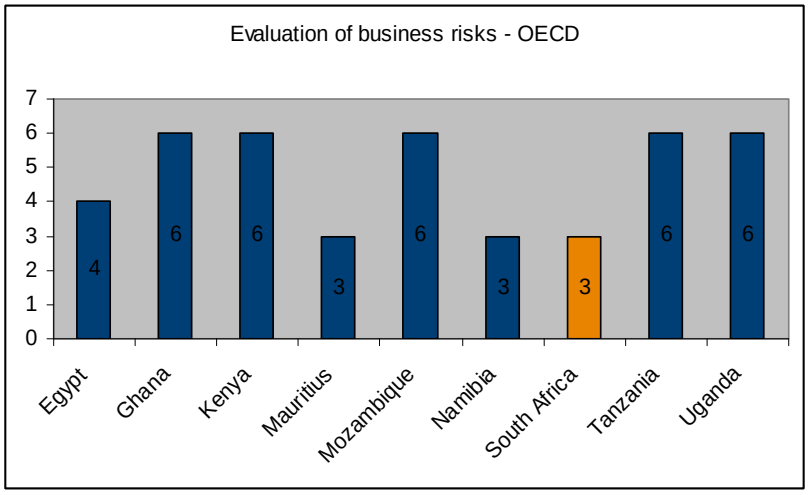


Source: UN Comtrade 2008

EU's import from South Africa puts it at the top in our selection of countries, just ahead of Namibia. The import has been steadily increasing yearly since 2002, and amounts to more than USD 324 million in 2007. The EU import from South Africa is about three times as big as the import from Kenya and Mozambique, and the double of the import from Tanzania.

8.7 Security conditions and evaluation of business risks

Figure 8.6: Evaluation of business risks, OECD - South Africa



OECD rate South Africa as a category 3 country in their June 2008 assessment. This is equivalent to a credit rating of BBB+ to BBB-. ViewsWire rates South Africa's economic structure risk as a BB, while the country risk, currency risk and the banking sector risk get rated BBB. The political risk is rated A. The South Africa business environment gets ranked as 43 out of 82 in the global ranking.

The ONDD rates South Africa 3 on their political risk scale. The commercial risks are rated B on their A to C scale.

8.8 Sector SWOT analysis and conclusions

South Africa's large and diverse economy makes it an attractive option with a strong marine fishery resource base. The markets, infrastructure and communications are well developed and make establishment of new businesses relatively easy. The need for local partners and joint ventures is likely due to the increasing nationalism. The current political instability may well deter any potential investor.

Table 8.7: SWOT analysis - South Africa

Strengths • Relatively undeveloped coastal/marine resources • Good inland water resources • Some aquaculture and processing skills, and some support capacity • International tourist destination • The one-stop-shop for exports	**Weaknesses** • Small-scale and relatively uncoordinated sector • Resource management uncertainties • Tourist sector stagnation, constraints in food service development • Governance and transparency concerns • Lack of ability to monitor and control marine fisheries.
Opportunities • Integrated approach to value addition and export using diverse national resources • Support services for aquaculture development • Possible aquaculture production with franchise/nucleus approach • New sector policy underdevelopment	**Threats** • Political and economic instabilities; public sector constraints; • Other national/client interests competing for coastal or lake resources • Illegal fishing

8.9 Preliminary recommendation for relevant areas for investment potential

On the one hand South Africa looks well situated to be a favourable chose for further investigations with one of the strongest economies in the region. However, on the other hand the environment has been positive for investing in South Africa for some time and even with the presence of a strong trade promotion element in the Norwegian embassy in Pretoria no successful commercial investments have been established in the field of fisheries. It may then appear more interesting to put effort into countries that have not had so much attention in the past and may offer new opportunities for Norwegian investment.

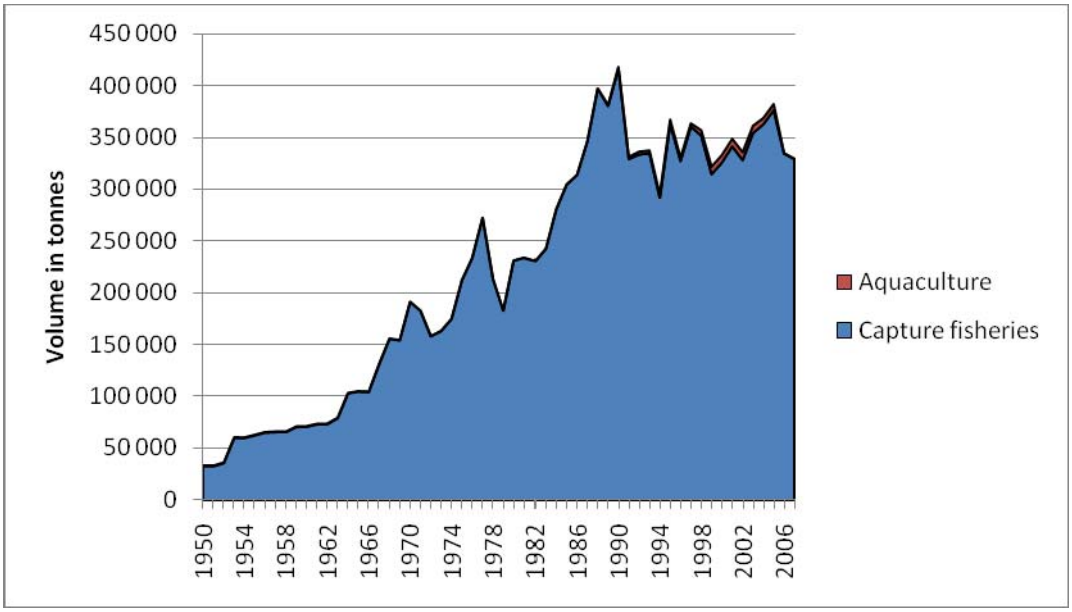
9 Tanzania

9.1 Sector description

9.1.1 Fisheries

Over recent years, annual production has levelled-off at around 350,000 t of which some 290,000 t (85 %) originates from the great lakes, 50,000 t (15 %) from the relatively unproductive inshore marine fishery and the balance from smaller lakes and reservoirs. The highest landing over 418,000 t occurred in 1990. These figures make Tanzania the second largest producer of fish from inland capture fisheries in Africa and the eighth in the world after China, India, Bangladesh, Indonesia and Uganda. These figures exclude the Exclusive Economic Zones (EEZ) which is poorly assessed (crude estimates suggest annual capacity >730,000 t) and mainly exploited by foreign fleets on a quota basis for which local monitoring capacity is extremely limited. Inland and inshore fishing is essentially small-scale and artisanal with the exception of a small shrimp trawling fleet. The abundance of natural inland fisheries is a key reason for the negligible contribution of aquaculture to date. The combined marine and fishery sector employs at least 80,000 professional fishermen, 600,000 in allied industries especially processing and distribution and contributes nearly 10 % of foreign earnings and 2.7-3 % of formal GDP. Unreported informal contributions are substantial; numbers of subsistence fishermen are likely to be significantly higher than recorded numbers. There is a highly diverse tropical multi-species fishery (>500 spp.), however production is dominated by; Nile perch (*Lates niloticus* – 38 %), dagaa or Lake Victoria Sardine (*Rastrineobal argentea* – 24 %) and tilapia (*Oreochromis niloticus* – 7 %).

Figure 9.1: Total fisheries production - Tanzania



Source: FAO Fishstat 2009

Table 9.1: Capture fisheries production – Tanzania

Species	2001	2002	2003	2004	2005	2006	2007
Aquatic animals	340	65	75	10	14	<0.5	<0.5
Aquatic plants	5,000	4,500	2,500	240	52	278	214
Crustaceans	2,000	2,000	1,700	1,300	1,800	1,800	1,656
Freshwater fishes	283,354	273,856	301,855	312,040	320,566	292,519	284,346
Marine fishes	49,945	46,810	45,795	47,560	52,614	39,167	41,933
Miscellaneous aquatic animal production	437	325	896	317	300	277	270
Molluscs	650	800	1,700	1,600	1,334	703	882
Whales, seals, aquatic mammal	50	14	33	12	-	-	-
TOTAL	**341,726**	**328,356**	**354,521**	**363,067**	**376,680**	**334,744**	**329,301**

FAO Fishstat 2009 - Volume in tonnes

Table 9.2: Aquaculture production – Tanzania

Species	2001	2002	2003	2004	2005	2006	2007
Eucheuma seaweeds	7,000	7,000	7,000	6,000	6,000	320	400
Nile tilapia	300	630	2	4	4	4	4
Rainbow trout	.	.	.	7	6	6	6
TOTAL	**7,300**	**7,630**	**7,002**	**6,011**	**6,010**	**330**	**410**

FAO Fishstat 2009 - Volume in tonnes

Table 9.3: Fishery exports – Tanzania

	2001	2002	2003	2004	2005	2006
Tonnes	55,678	54,997	59,415	61,495	58,794	47,367
USD 1000	114,327	119,513	134,345	117,569	144,646	188,782
Average value (USD/kg)	2.05	2.17	2.26	1.91	2.46	3.99

FAO Fishstat 2009

Table 9.4: Fishery imports – Tanzania

	2001	2002	2003	2004	2005	2006
Tonnes	276	185	311	421	572	2,950
USD 1000	771	164	613	615	545	1,077
Average value (USD/kg)	2.79	0.89	1.97	1.46	0.95	0.37

FAO Fishstat 2009

Table 9.5: Fisheries commodities production - Tanzania

Commodity	2000	2001	2002	2003	2004	2005	2006
Crustaceans and molluscs	1,926	1,629	2,774	3,769	3,127	3,070	1,912
Fish, dried, salted, or smoked	60,000	66,800	67,500	67,358	66,393	66,000	65,700
Fish, fresh, chilled or frozen	30,831	33,456	26,294	33,367	30,448	30,160	23,508
TOTAL	**92,757**	**101,885**	**96,568**	**104,494**	**99,968**	**99,230**	**91,120**

FAO Fishstat 2009 - Volume in tonnes

Lake Victoria is the most important inland fishery in terms of production, employment and value. Following the ecological shift and boom in Nile Perch population, fillets and by-products became one of Tanzania's major export commodities, with EU as the largest market. Tilapia is mainly retained for domestic consumption, while dagaa is sun dried for export/ local consumption and fishmeal production. Opinion on the exploitation status of the nation's fisheries is divided. The Department of Fisheries (DoF) , now under the Ministry of Livestock Development and Fisheries (MLDF) estimates that there is scope to double existing yields to >700,000 t per year by developing fisheries for alternative species. However the

current reality indicates that most traditional fisheries are nearly or fully exploited, evidenced by increasing domestic prices. The future of fisheries will depend on the capacity of the country to adopt strong policies and develop the required know-how and expertise for modern fishing technologies, inland and open sea fish farming.

9.1.2 Aquaculture

Current aquaculture initiatives can be broadly classified into three groups or sectors based on their size and commercial orientation:

(1) on-going donor-funded development initiatives promoting small-scale or SME-based and community based aquaculture for subsistence and local markets;
(2) small-holder seaweed farming under contract arrangements (implicit or informal) for export by international processors;
(3) Large-scale (externally funded/ initiated or joint venture) commercial aquaculture operations targeting international export markets.

Small scale aquaculture:

Following poor pond-farming outcomes in the interior, donor support has shifted to small-scale options in the coastal zone. This is predicated on proximity to the urban markets of Dar es Salaam and over-exploitation of inshore marine fisheries on which local consumers rely. To date, these initiatives remain at the pilot level collaborations between NGOs, governmental and national research organisations and potential adopters. Candidate species/systems include milkfish (*Chanos chanos*) in earthen ponds, rabbit fish (*Siganus spp*.) in cages and net pens, mullet, sea cucumber (*Holothuria scabra*) pearl oysters (*Pinctada margaritifera*) of Zanzibar, several other bivalve molluscs species, mud-crab (*Scylla serrata*) as well as various attempts at integrated finfish/ shellfish mariculture and brine-shrimp production in saltpans. A recent collaborative USAID project (SEEGAD) funded construction of a demonstration pond for mixed-sex Nile tilapia culture in Mfuru-Mwambao village some 40 km south of Dar es Salaam. The 750 m^3 pond relied on water from Kinyembanyemba River for semi-intensive production in fertilised water (indicating low abstraction rates). Despite individual anecdotes of farmer satisfaction, there is as yet no evidence of significant lateral spread or sustained adoption for any of these initiatives. All depend on sourcing of wild seeds/ fattening of juveniles (with very limited hatchery capacity for tilapia). While primarily targeting local markets, in practice many of these schemes are also constrained by their marked production orientations. Various lessons can be learned, for example marine cage operations suffered from severe net-fouling by bivalves, relatively high sea temperatures and stressful seasonal salinity fluctuations in shallow inter-tidal areas.

Contract seaweed farming:

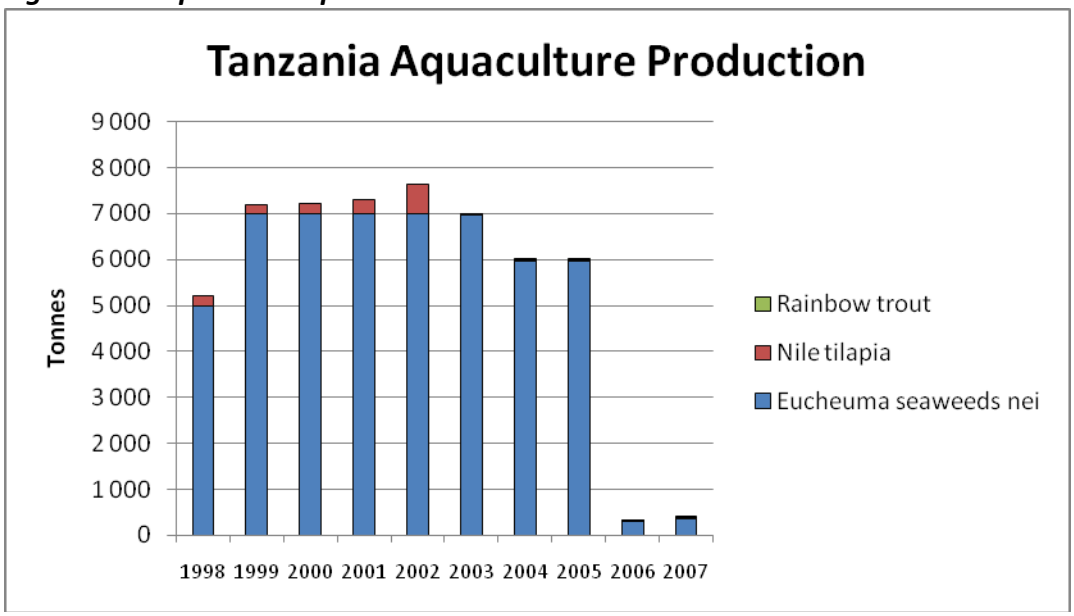
Carrageenophyte seaweeds (exotic *Eucheuma denticulatum* or 'spinosum' and subsequently local *Kappaphycus alvarezii* or 'cottoni') production constitutes some 90 % of recorded aquaculture volume. Despite growing global demand and good prices for the main carrageen products (food additives and thickening agents), the advent of disease problems, inability to exploit more productive deeper waters, poor coastal infra-structure and long distances to wholesale markets, has resulted in volumes flattening-off at around 7,000 t/yr (dried wt.) since 1999. Since neither artificial feeds nor chemicals are employed seaweed farming has relatively low environmental impact. Initial socio-economic impacts were also overwhelmingly positive. However, monopolistic control by a small-number of processing companies (USA and Denmark) has attracted criticism. Producers are mainly women engaged as small-scale producers through informal contracts. Despite favourable global markets, between 1999 and 2005 the price paid for dried cottoni fell from USD 0.31 to USD 0.18 per kg, and companies were charged with exploiting farming as the 'livelihood of last resort' for poor coastal communities. The same contract mechanisms also prevent any local processing for value-addition, other than drying. This sector is characteristic of the wider regional over-reliance on export of primary commodities rather than higher value intermediate (partially processed) or final (ready for consumption) goods.

Large-scale export orientated aquaculture:
Development of this final sector has had a stop and start history punctuated by several fiascos associated with planned coastal initiatives. This has undoubtedly contributed to delays in implementation, particularly notable in comparison to the development status of neighbouring Kenya and Mozambique. The three major initiatives are outlined below:

1. Most notable was a 2005 joint venture bid, which proposed conversion of 600 ha salt flats adjacent to the river for annual production of 2,500 t tilapia production using 20 million fingerlings from a purpose built hatchery to be constructed by a nearby lagoon. However cost benefit analysis indicated an unfavourable 5 year payback on a return of 16 %. The analysis was based on a whole tilapia commodity sale price of Euro 2.75 per kg. Attempts to repackage the system as a multi-purpose finfish installation for brackish and freshwater species appear to have stalled.
2. The Rufuji River Delta some 150 km south of Dar es Salaam has also been the focus of several large-scale proposals. The delta covering some 56,000 ha constitutes the largest estuarine mangrove forests on the East coast of Africa and is thus a particularly sensitive conservation area. In 1996 the African Fishing Company proposed to construct what would have been the largest single shrimp farm (19,000 ha) in the world. In the face of sustained local and international public pressure the permits issued by the government in 1998 were ultimately revoked in 2001 and conservation status restored.
3. Tanzania's first medium/large scale vertically-integrated export-orientated aquaculture farm finally got off the ground in 2005. Alpha Kruist Ltd is a subsidiary of the Alpha Group an East African conglomerate with a core interest in the processing and export of Lake Victoria Nile Perch (*Lates niloticus*) recently also diversifying into meat and dairy products. The company has constructed: 112 ha of ponds on Mafia Island (125 km southeast of Dar es Salaam) with permits for 200 ha ponds, a hatchery with annual capacity for 60 million black tiger shrimp (indigenous *Penaeus monodon*) post-larvae (juveniles) and a processing plant (adjacent to the international airport) with 20 t per day capacity (Alpha Krust also has a shrimp-trawling fleet).

Overall, despite the numerous initiatives, the aquaculture sector remains up to date under developed (Figure 9.2).

Figure 9.2: Aquaculture production 1998-2007 - Tanzania



Source: FAO Fishstat 2009

9.2 Skills, education and support services

Vocational aquaculture training (diploma or certificate) is available from two institutions

1. The Freshwater Research Station (Ngyezi – Lake Victoria): offers a short vocational (certificate) course in fresh water pond aquaculture.
2. The Coastal Fisheries Research Station (Mbgeni): has 3 specialist aquaculture staff with overseas training (mainly freshwater). Aquaculture is currently offered as part of a diploma; however the development of a specialised curriculum has been prioritised in response to declining coastal stocks. The recent construction of pumped coastal demonstration ponds for brackish water milk-fish *Chanos chanos* is one example of this. Each of the above courses graduates between 15-30 students per year. Given the current state of commercial development, this represents excess capacity, particularly for the smaller number of middle-management positions targeted by the degree courses. Mbgeni has been successful in providing training placements leading to employment opportunities for pond and hatchery staff at the recently established Mafia Island Shrimp operation (Alpha Krust) .

National fisheries research functions are vested in the Tanzania Fisheries Research Institute (TAFIRI under Department of Fisheries), with headquarters at Kunduchi (north of Dar es Salaam) and research stations located in;

1. Mwanza (Lake Victoria);
2. Kigoma (Lake Tanganyika);and
3. Kyela (Lake Nyasa/Malawi).

Major donor-funded research projects since Independence have largely been concerned with the major Lake Victoria and Tanganyika fisheries, though the organisation is actively strengthening its aquaculture capacity.

The Universities of Dar es Salaam (Fisheries Dept. Marine Sciences) and Sokoine (Faculty of Agriculture) have specialised aquaculture degree courses. USDM offer a BSc/Diploma in fisheries and aquaculture and Sokoine a BSc in aquaculture which produced its first batch of students this year. Both degrees cover the same core areas but UDSM has greater focus on coastal marine aquaculture consistent with its location. UDSM also has a larger faculty and longer tradition of involvement in aquaculture research; several staff been involved in pilot commercial aquaculture research programmes over recent decades. Sokoine has a strong interest in nutrition extending from its core livestock expertise.

9.3 Physical and marketing infrastructure

There are 149,946 artisanal fishermen in the artisanal sub sector; about 4,000 people employed in the fish processing sub sector (includes fish processing plants and the prawn fishing crews). Aquaculture offers employment to more than 17,847 (Freshwater fish farming, seaweed farming and prawn farming). Furthermore numerous number of jobs created e.g. in food vending and other petty business in the fisher communities all totalling to about 2 million people.
Nationally two distinct marketing systems exist.

1. The first involves the filleting companies which send insulated trucks to the landing centres on the great lakes to purchase fish. Around 75 to 80 % of fillets are exported in fresh form, the rest frozen. However, cold chain facilities are limited. Nile perch is iced only in the trucks after being sold to agents of the processing factories. In addition to 12 Nile perch filleting plants centred on Mwanza, processing plants (mainly) for penaeid shrimp are adjacent to Dar es Salaam and Tanga. All are strategically located close to airports to access export markets for fresh products. These private companies replaced parastatal National Cold Storage Operations (NCCO) which handled much of this traffic prior to economic liberalisation. In mid-1994 the export of whole fish and semi-processed fish was officially banned as part of a national food security policy and to ensure

maximum earnings through various taxes and royalties imposed on value-added products, particularly processed Nile perch.

2. The second and much more informal system involves fishmongers engaged mainly in cured fish distribution and trade. Lacking cold storage, approximately 2/3 of all fish destined for local consumption i.e. away from landing sites, is processed to ensure good keeping qualities in one of several ways before it enters the distribution chain: smoked, sun dried/ cured, fried or fermented. Fishmongers often use public transportation to send such produce to the market. In Mlandizi (40 km inland of Dar es Salaam) this consists mainly of locally caught and smoked catfish (from the Ruvu river and marsh), while there were only very small amounts of smoked tilapia originating from the 'Lakes', but plentiful low-cost dagaa (TSh 500 to 1,000), sold separately by grain and vegetables vendors. Most fish at the main Dar es Salaam Ferry wholesale market is sold fresh; the market has cold storage to conserve ice for distribution purposes, but relies on a nearby Coca-Cola plant for its production.

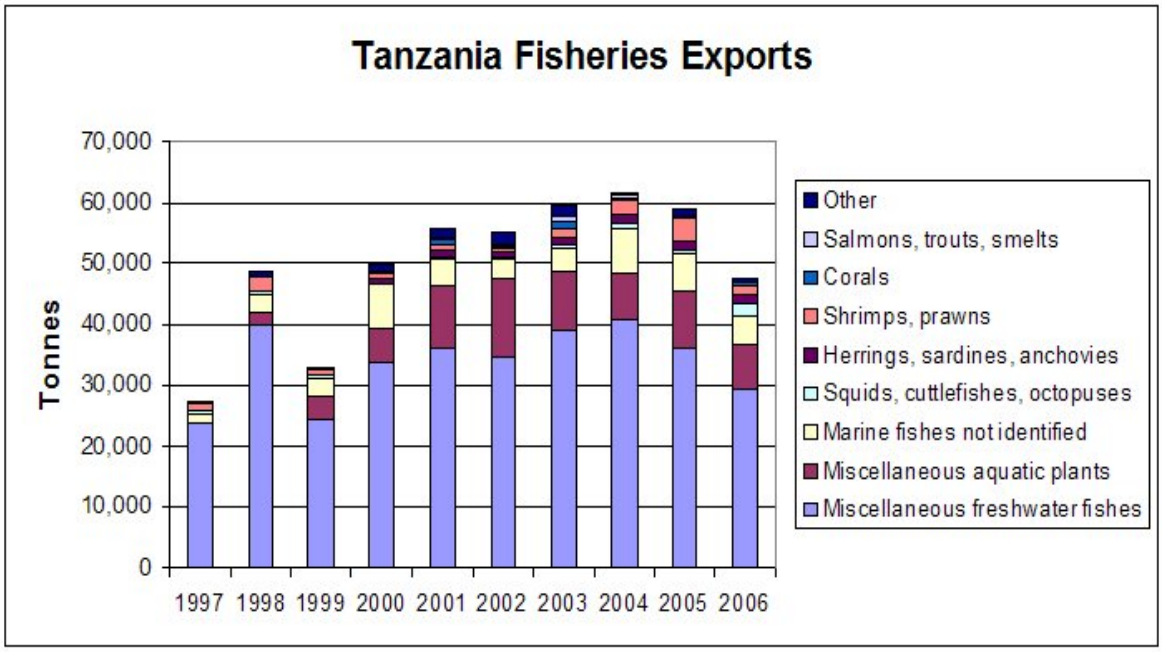
A sizeable proportion of smaller marine varieties are conserved by frying at a separate part of the market. Retailing of both fresh and processed varieties is mainly from roadside stalls and open markets.

Regional trade and the cold chain: Poor cold chain and transport infrastructure also constrains regional trade in fish and fishery products among neighbouring African countries. FAO estimates intra-regional trade in sub-Saharan Africa (exc. S. Africa) at only 15 % of production: some 150,000 t, informally traded and worth USDUSD 200 million (2001). Both Uganda and Tanzania export salted dried fish (slightly fermented) to the landlocked DRC where there is considerable demand for this product. However in terms of pricing such processing in the main constitutes a preservation or salvage mechanism will no appreciable net value-addition over and above fresh fish.

The Nile Perch Sector: Tanzania is the main exporter, producing some 24,000 t of 53,000 t fillets coming from the Lake. This was worth Euro 210 million in 2007 equivalent to 3 % of national GDP. In 2006 prices at the plant gate rose by 60 % to USDUSD 2/kg an all time high for whole Nile perch reflecting a sharp fall in supply largely due to over-fishing (the proportion of Nile perch in the total biomass of the lake fell from 90 % to under 50 % between 1980 and 2005). This leaves small profit margins for the processors even with an EU import price (c.i.f.) around USDUSD 7/kg (up USD1.50 per kg on the previous year). The industry also faced an import ban in 2002, due to public health concerns associated with pesticide residues and unsanitary conditions at beach landing sites. The processing capacity of the sector is now significantly under-utilised. In this context, a vertically integrated farming operation which reduces supply-side risk begins to look capable of competing on cost with the wild fishery, whilst benefiting from existing processing and distribution infra-structure and ready fish meal supplies.

Market tariffs: A recent survey of Nile Perch processors centred in Mwanza indicated lack of adequate infrastructure, lack of trained personnel and high taxes as their main business constraints. A 6 % royalty was payable on fillet exports to central government. In addition, a local government 'fish levy' payable on the sale of fish on domestic markets (usually by the buyer), has been capped at 5 % of landed value since 2003. These are viewed by the government as a resource rents rather than management tools. Current regulations make no exemption for aquaculture products. It is estimated that these and various other fishery licensing revenues account for 9 % of the landed value of fish stocks, with the more efficient export levy accounting for 70 % of generated revenue.

Figure 9.3: Fisheries exports 1997-2006 - Tanzania



Source: FAO Fishstat 2008

9.4 Legislative framework

9.4.1 For fisheries

The Fisheries Division of the MNRT has identified commercialisation of aquaculture as a priority consistent with economic liberalisation goals, over-exploited capture fisheries and growing population. This policy has been gaining momentum over the last 3 years and publication is scheduled for 2008. This is likely to focus mainly on technical issues (production systems, candidate species, seed provision, stances on further introduction of exotics, health etc.) to the exclusion of market considerations. There appears to have been limited participation of the private sector, (e.g. potential investors, agribusiness interests, livestock feed manufacturer(s), shrimp and seaweed farmers, seafood processors, exporters, importers etc.). There is also little evidence of inter-sectoral consultation e.g. with policy makers familiar with trade issues; including import/ export tariffs or investment advisory/ support services (e.g. the Tanzanian Investment Centre) etc. This inertia in part reflects the current primacy of fisheries in seafood production and policy. This is clearly demonstrated in the positioning of aquaculture within the fisheries division of the Ministry of Natural Resources and Tourism (MNRT). With needs allied more closely to those of agriculture, it would sit more effectively in the Ministry of Agriculture and Food Security (MAFS) which includes the Ministry of Livestock Development. Again the current situation reflects the rudimentary nature of the aquaculture sector. Despite these limitations, tangible evidence of political will towards liberalisation and commercialisation is evident with public servants in different departments including the Division of Fisheries.

A key policy relating to development of the coastal zone is the 2002 National Integrated Coastal Management Strategy (NICMS). This promoted decentralised governance and promotion of community participation in 'resource planning to harmonise national and local needs'. Pilot programmes were initiated in 2004 in two districts Pangani (Tanga region) and Bagamoyo. Activities included capacity building, conflict resolution related to coastal common property resources (artisanal fishers v shrimp-trawling, halting destructive fishing and mangrove extraction practices) and support to seaweed farmers. Co-operation and support to such initiatives could contribute to a CSR-based marketing strategy.

9.4.2 For investment and business enterprise and trade

Tanzania Investment Centre (TIC) was established in 1997 following the enactment of the Tanzania Investment Act of 1997. The Investment Act provides for the following fiscal and non-fiscal incentives:

Fiscal Incentives

1. Corporate tax of 30 %
2. Import duty and VAT exemption on project/capital/deemed capital goods
3. Import duty draw back scheme
    a. Refund of duty charged on imported goods used for producing goods for exports as well as for goods sold to foreign institutions such as UN and its agencies in Tanzania

Non-Fiscal Incentives

1. Immigration quota for up to 5 expatriates
2. Guaranteed transfer of:
    a. Net profits or dividends of the investment
    b. Payment in respect of foreign loans
    c. Remittance of proceeds net of all taxes and other obligations
    d. Royalties fees and other charges

In addition, for projects over USD 20 million that also offer specific impact for the society and/or the economy, the investor can request for special incentives from the government.

9.5 Business environment

Tanzania had a GDP of USD 11.98 billion in 2006, and an average growth rate of 6.2 %. The per capita income was USD 319. The forecast predicts an average growth rate of 7.1 % in 2008-2009, driven by the construction, tourism and mining sectors. The inflation rate is estimated at 8.6 % in 2008, and a decrease to 6.7 % in 2009. Transparency International ranks Tanzania 94 out of the 180 countries included. It gets a score of 3.2. This puts Tanzania at the same rank as Madagascar, Panama, and Sri Lanka. In 2008, Tanzania was ranked 130 out of 178 economies. This is well behind countries as Mauritius and South Africa, but ahead of countries like Mozambique and DRC.

Table 9.6: Doing Business ranking 2009 and Norwegian fishery adjusted score - Tanzania

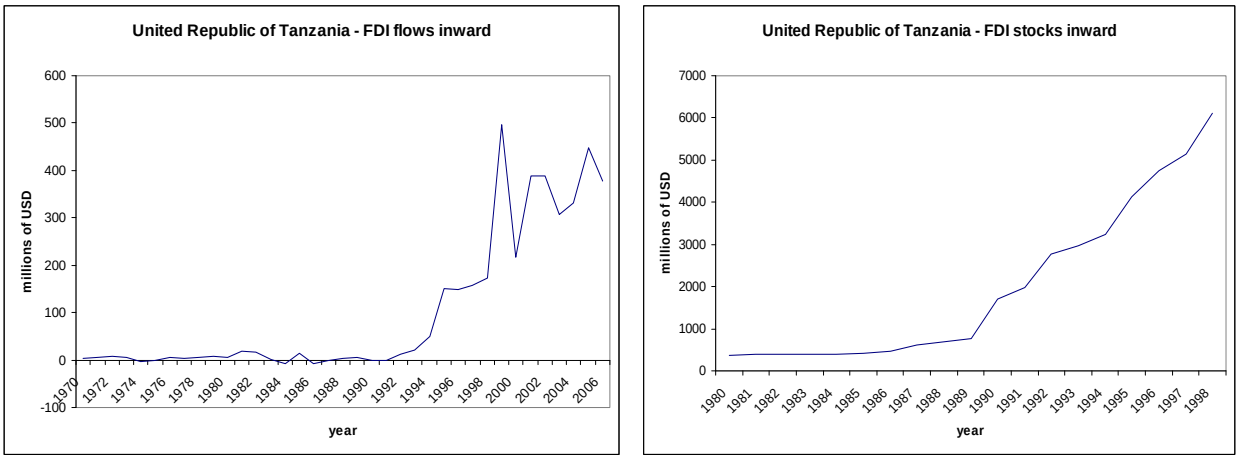
Ease of...	Rank Doing Business 2009	Score adjusted model
Doing Business	127	146
Starting a Business	109	109
Dealing with Construction Permits	172	172
Employing Workers	140	140
Registering Property	142	284
Getting Credit	84	8
Protecting Investors	88	176
Paying Taxes	109	218
Trading Across Borders	103	309
Enforcing Contracts	33	33
Closing a Business	111	11

The Doing Business 2009 rank Tanzania 127 out of the 181 economies included. In issues important to Norwegian investors as protecting investors, paying taxes, trading across borders, Tanzania is not doing very well compared to other countries in our selection as for instance Mauritius and South Africa. The overall score of Tanzania in our adjusted score model puts it in the lower half of the group together with Kenya, Uganda and Mozambique.

9.6 Foreign investments and trade in fish

In 2006, the FDI stocks as percentage of GDP counted 47.8 %, and the amount of FDI stocks was USD 6.1 billion. Tanzania's annual average FDI flows between 2003 and 2006 was USD 365 million. The post and communication sector has been a substantial receiver of FDI flows in the 2000s. The overall picture is shown in Figure 9.4.

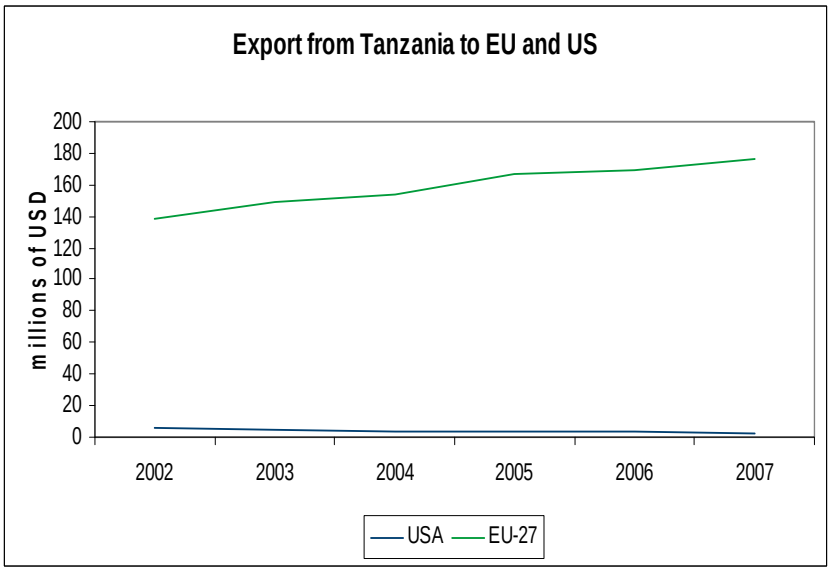
Figure 9.4 Inward FDI flows (1970-2006) and inward FDI stock (1980-2006) - Tanzania



Source: UNCTAD 2008

Both inward FDI flows and FDI stock has increased steady in the 2000s. The FDI stocks have increased every year since 1980. The FDI flow peaked in 2000, but recovered yearly after 2001. In 2006 this showed a slightly downward trend, but due to the volatility in FDI flows it is difficult to predict the future trend. The FDI stocks has increased steady, and in 2007 it amounted to USD 6 billions, which puts it in top three in our selection of countries in attracting foreign investments.

Figure 9.5: EU and US import of fish products - Tanzania

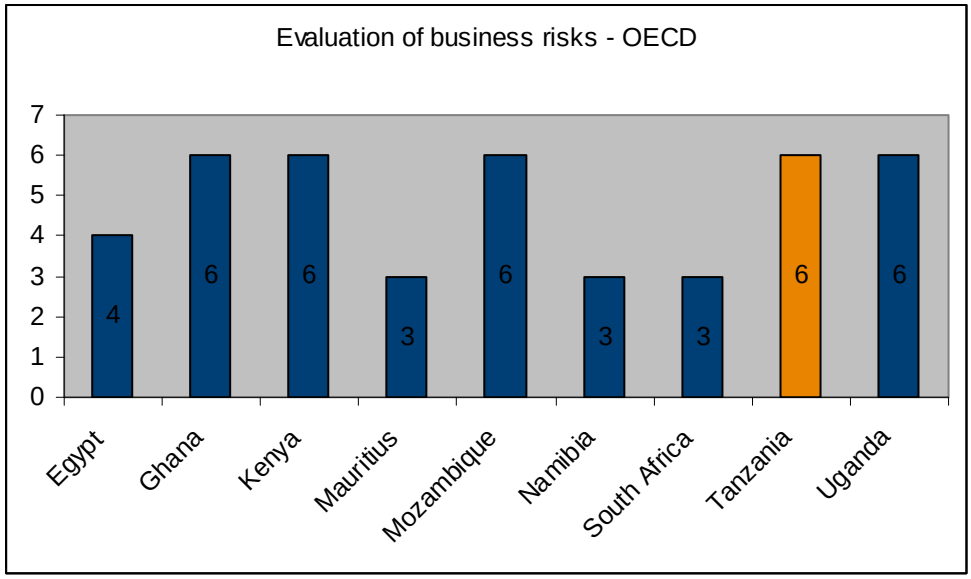


Source: UN Comtrade 2008

Among the countries in our selection, the import from Tanzania to the EU market puts it in fourth place behind Mauritius, Namibia and South Africa. In 2002, the import EU import was USD 133 millions, while this increased to USD 174 millions in 2007. The US import is very modest compared to the EU's, and amounted to USD 2 millions in 2007. EU's import from Tanzania has increased steady every year since 2002, and nothing indicates that the trend will turn downwards.

9.7 Security conditions and evaluation of business risks

Figure 9.6: Evaluation of business risks, OECD - Tanzania



OECD classifies Tanzania as a category 6 country. This is equivalent to a credit rating of B to B-. This categorisation of Tanzania has been stable the last years. ViewsWire rates the political risk and the economic structure risk in Tanzania as a B, while the currency risk, banking sector risk and country risk are rated as BB. The ONDD rates Tanzania 2 on their scale of political risk. The commercial risks are rated C; high risks.

9.8 Sector SWOT analysis and conclusions

Tanzania offers potential as a country that has steadily improving social and economic conditions and has made good head roads in improving fishery governance. For example the fishing license fees for foreign vessels were increased in September 2008 and the Minister declared stricter controls on foreign fleets. This all signals development in Tanzania and a desire to take their fishery management seriously and to respect regional obligations.

Table 9.7: SWOT analysis - Tanzania

Strengths • Relatively undeveloped coastal/marine resources • Good inland water resources • Some aquaculture and processing skills, and some support capacity • International tourist destination • The one-stop-shop for exports	**Weaknesses** • Small-scale and relatively uncoordinated sector • Resource management uncertainties • Tourist sector stagnation, constraints in food service development • Governance and transparency concerns • Lack of ability to monitor and control marine fisheries.
Opportunities • Integrated approach to value addition and export using diverse national resources • Support services for aquaculture development • Possible aquaculture production with franchise/nucleus approach • New sector policy underdevelopment	**Threats** • Political and economic instabilities; public sector constraints; • Other national/client interests competing for coastal or lake resources • Illegal fishing

9.9 Preliminary recommendation for relevant areas for investment potential

Tanzania has interesting potential but may not offer short-term opportunities for potential investors as favourable as those which may be available elsewhere. Nonetheless, various development themes could be applied regionally and although the potential impact of investment has not been explored directly, but other things being equal, the opportunity for business partnerships to generate a larger positive effect will create a positive weighting.

For those businesses who wish to gain 'ethical capital' by demonstrating good corporate social responsibility, prospects of linking business development with local benefit will be very attractive. For this reason Tanzania may have reasonable attraction as a study country for the next phase.

Another factor supporting the choice of Tanzania could be the work carried out by Norwegian research agencies that may be an interesting angle for exploring themes for development opportunities that could be taken beyond one country.

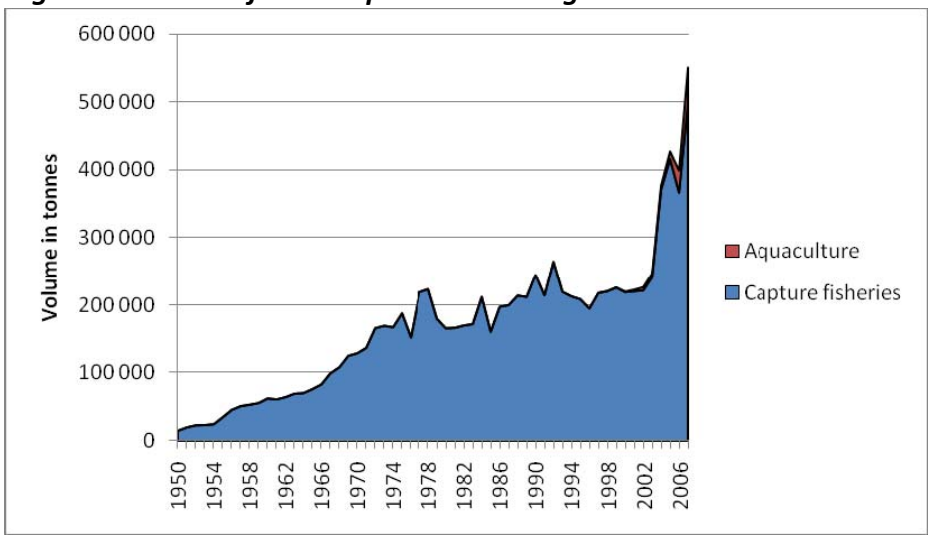
10 Uganda

10.1 Sector description

10.1.1 Fisheries

Fisheries in Uganda play a very important role as a basis for subsistence and commercial livelihood. Fish comprises the single most important source of animal protein available to the national population. Lake Victoria is by far the largest, and economically most significant, of the national fisheries. However, other large lakes, including George, Edward, Albert, and Kyoga, along with the River Nile and a great variety of swamps and streams, also contribute substantially to the annual national catch. Customary capture methods – baskets, traps, and hook-and-line – continue to be employed widely, largely for subsistence purposes. The bulk of production comes from commercial sources. Artisanal-scale fishers utilize various gear, including gillnets, longlines, beach seines and mosquito nets.

Figure 10.1: Total fisheries production – Uganda



Source: FAO Fishstat 2009

Lake Victoria provides by far the most important of the African Great Lakes fisheries, owing to the tremendous expansion in Nile perch (*Lates niloticus*) harvests from around the mid-1980s. Reports indicate that annual Uganda landings of Nile perch from the lake have decreased from the 100,000 t-plus levels of the late 1980s and early 1990s, to 80–90,000 t annually over 1995–1997 (FAO/FISHSTAT estimates). Catches of Nile perch from the Uganda portion of the lake peaked in 2007, at a reported 210,000 t. From 1985 through 1997, the annual Nile perch catch has comprised around half of total annual production in the country. It should be noted that an estimated 60,000 t is thought to be lost through illegal, unrecorded and unreported (IUU) fishing and cross-border illicit fish trade.

Available catch statistics for Lake George over a forty-year period ending in 1990 averaged around 3,000 t/year; for Lake Edward, returns covering a 25-year period ending in 1988 indicate an average catch of

around 5,500 t/year. While Lake Albert Catch statistics indicate that annual catches over 30 years (1955 to 1986) fluctuated between lows of around 4,000 t to highs of over 20,000 t/year. However, the accuracy of this latter record is open to question.

Table 10.1: Capture fisheries production – Uganda

Species	2001	2002	2003	2004	2005	2006	2007
African lungfishes	5,796	5,000	4,566	12,938	14,503	12,778	17,400
Characins	10,331	7,100	9,491	20,002	22,422	19,754	26,900
Cyprinids	12,182	12,000	8,261	22,939	25,714	22,655	30,850
Freshwater fishes	2	1,800	728	7,436	8,335	7,347	10,000
Freshwater siluroids	.	.	1,210	1,487	1,667	1,469	2,000
Naked catfishes	4,375	4,800	5,723	8,179	9,169	8,078	11,000
Nile crocodile	900	.	2	600	300	.	.
Nile perch	88,881	90,698	112,804	156,301	175,205	154,340	210,200
Tilapias	96,172	98,000	97,330	138,789	155,575	137,006	186,650
Torpedo-shaped catfishes	2,987	2,500	1,697	3,718	4,168	3,672	5,000
TOTAL	**220,726**	**221,898**	**241,810**	**371,789**	**416,758**	**367,099**	**500,000**

FAO Fishstat 2009 - Volume in tonnes

Table 10.2: Aquaculture production – Uganda

Species	2001	2002	2003	2004	2005	2006	2007
Common carp	270	230	300	50	41	47	73
Giant river prawn	.	.	.	2	2	2	1
Nile perch	.	.	.	.	7	14	49
Nile tilapia	1,350	1,797	2,000	1,660	4,221	11,365	16,763
Redbelly tilapia	200	160	200	.	18	23	128
Torpedo-shaped catfishes	540	2,728	3,000	3,827	6,528	20,941	34,096
TOTAL	**2,360**	**4,915**	**5,500**	**5,539**	**10,817**	**32,392**	**51,110**

FAO Fishstat 2009 - Volume in tonnes

Table 10.3: Fishery exports – Uganda

	2001	2002	2003	2004	2005	2006
Tonnes	17,318	25,534	8,051	31,958	39,324	36,935
USD 1000	51,020	87,955	24,143	103,670	143,258	146,951
Average value (USD/kg)	2.95	3.44	3.00	3.24	3.64	3.98

FAO Fishstat 2009

Table 10.4: Fishery imports – Uganda

	2001	2002	2003	2004	2005	2006
Tonnes	29	290	792	310	423	326
USD 1000	53	109	1,068	561	850	374
Average value (USD/kg)	1.83	0.38	1.35	1.81	2.01	1.15

FAO Fishstat 2009

Table 10.5: Fisheries commodities production - Uganda

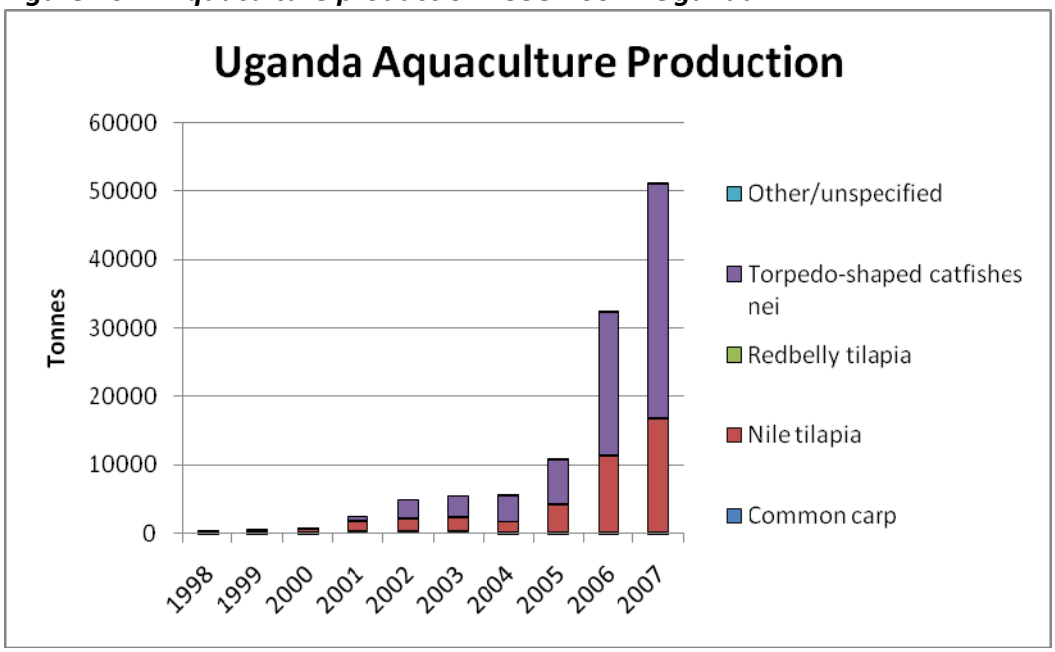
Commodity	2000	2001	2002	2003	2004	2005	2006
Fish, dried, salted, or smoked	22,247	21,090	20,230	20,070	20,100	20,178	20,353
Fish, fresh, chilled or frozen	14,141	16,850	24,919	7,624	30,005	37,084	34,274
TOTAL	**36,388**	**37,940**	**45,149**	**27,694**	**50,105**	**57,262**	**54,627**

FAO Fishstat 2009 - Volume in tonnes

10.1.2 Aquaculture

Though aquaculture production is still relatively modest in economic terms, interest in aquaculture is on the rise in Uganda. The focus of the Department of Fisheries Resources has recently changed, with the new leadership stressing commercial or profitable aquaculture. According to the Department of Fisheries there are two key species cultured in Uganda contributing over 90 percent of the total aquaculture production in the country. North African catfish has overtaken Nile tilapia and is the most common culture species in the country, with production in 2007 at over 34,000 t. However, with the government setting up conditions for export to premium markets and the investors' interest in tapping this market, Nile tilapia, at over 16,000 t in 2007, will overtake North African catfish in a few years, given its international market position (Figure 10.2).

Figure 10.2: Aquaculture production 1998-2007 - Uganda



Source: FAO Fishstat 2009

Pond culture is the most common system in the country. Other forms of fish culture such as cage culture are only starting to be discussed especially by the emerging commercial fish farmers. Previously farmers, 99 % of whom were subsistence fish farmers, had ponds ranging anywhere from 50 m² to 200 m². The majority (an estimated 60 %) remain at subsistence level of production with little or no technical inputs or management. With the drive to commercialise aquaculture, production efforts to increase the pond surface have resulted in a current average of 500 m² per pond. Farmers at this level have adopted the use of inputs such as quality fish seed and feed. The feed, however, is still usually made on-farm using formulae provided by the Kajjansi Aquaculture Research and Development Centre.

10.2 Skills, education and support services

It is estimated that some 700,000 Ugandans are involved in fisheries-related employment (around 150,000 for the harvest sector as fishers, crew, and boat and gear owners; 550,000 engaged in secondary or tertiary sectoral activities relating to processing, trading and the provision of miscellaneous support services).

There are currently an estimated 12,000 farmers involved in aquaculture, with about 150 service providers or extension workers employed by local governments. In 50 of the 56 districts there is an officer employed by the local government in charge of technical guidance and management of the aquaculture sub-sector. Another estimated 100 technical persons with basic training in fisheries and aquaculture work as private service providers under the privatised, demand driven and farmer managed

extension and advisory system. At the Ministry headquarters (Department of Fisheries Resources) there is an Aquaculture Unit headed by a Principal Fisheries Officer who is in charge of 5 Senior Fisheries Officers and 4 support staff. The Aquaculture Unit reports to the Assistant Commissioner for Fisheries. There are 100 managers for the upcoming commercial fish farms, some of whom have received formal training in fisheries and aquaculture. Under each of these farm managers there is an average of 3 labourers who support the manager on the farm. In addition, around 20,000 specialised manual labourers, who are mostly part-time, undertake tasks such as construction of ponds and water and diversion channels, site clearance, stocking and seining at harvesting. There are also some specialised groups of youth who undertake pond construction on a contract basis.

The National Agriculture Research System Act (2005) regulates fisheries and aquaculture research among other agriculture research areas. This Act breaks the monopoly of public agriculture research by public institutions and opens it up to other interested competent agencies and individuals through competitive research grants. In essence, it allows, in the case of aquaculture, other key players from academic institutions, private researchers or research agencies and other public agencies without a formal mandate to engage in aquaculture research using public funding.

The most significant aquaculture research institution in the country is the Kajjansi Aquaculture Research and Development Centre at Kajjansi in Entebbe. Research and postgraduate work, degrees, diplomas and certificate training are offered by the Zoology Department at the Faculty of Science and the Department of Wildlife at the Veterinary Faculty in Makerere University of Kampala. The Fisheries Training Institute in Entebbe offers opportunities for research and diplomas and certificate training.

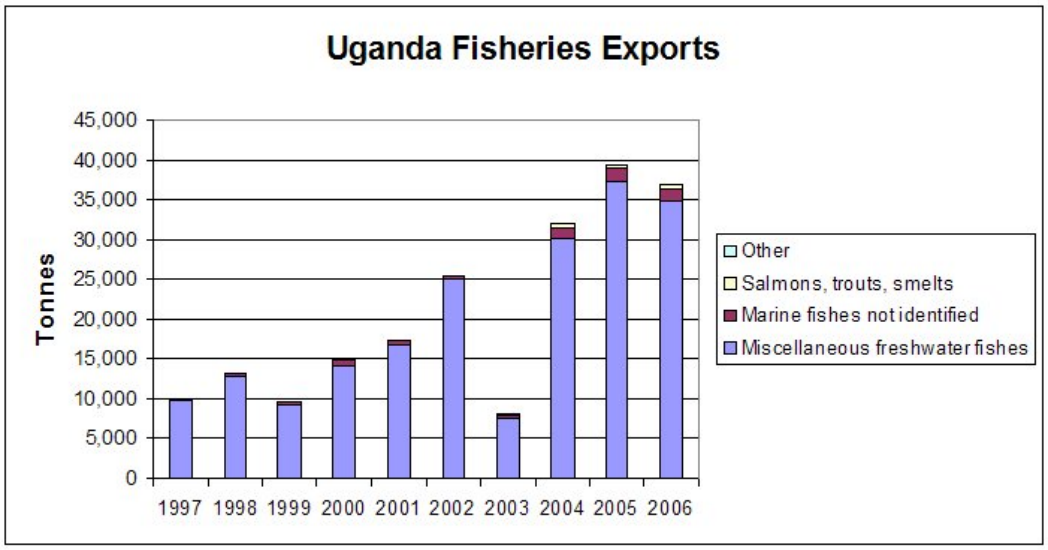
Uganda has hosted dozens of national projects in fisheries and aquaculture and has participated as a regional partner in many others. Many of these are research oriented, or have included research components, such as biological and socio-economic surveys. National fisheries research functions are vested in the Fisheries Research Institute (FIRI), formerly the Uganda Freshwater Fisheries Research Organization (UFFRO), with headquarters at Jinja. Major research projects since Independence have largely been funded through international and bilateral assistance agencies, and have mostly been concerned with Lakes Victoria and Kyoga, the two most important fisheries in the country.

10.3 Physical and marketing infrastructure

Industrial and/or more intensified fish culture in Uganda is only just beginning to be established. Most farms and companies at this level are either at the stage of putting infrastructure in place or at the beginning of the production process. This level is extremely capital intensive and requires technical expertise from highly experienced personnel, including those from other countries. Fish feed production at commercial level is being lined up and trial runs for production and marketing by at least a couple of institutions.

Fishing has always played an important economic role in the modern state of Uganda, and has assumed an even greater profile with the advent of the Lake Victoria Nile perch fishery. Uganda fisheries exports in 2006 was almost 37,000 tonnes for a total value of USD 146,951 million (Figure 10.3).

Figure 10.3: Fisheries export 1997-2006- Uganda



Source: FAO Fishstat 2008

The Uganda fish processing industry is composed of private companies. There are 12 registered companies for fish processing and export of which 10 are operational. All the companies are situated on the banks of Lake Victoria and Nile Perch is their main raw material. Local companies have been exporting most of their fresh or frozen fillets to European Union (EU), Japan, Hong Kong, Singapore, Australia, Dubai, Israel and United States of America (USA) since 1989. The current capacity of fillet processing in Ugandan factories is estimated to be at least 400 t of fish per month. The smallest unit exports 50 t of fillets per month as compared to over 400 t for the big units. Among them is worth mentioning Uganda Fish Packers Ltd., which is a subsidiary of Alpha Group, employing modern technology in all its factories in Uganda, Kenya, and Tanzania. With a total of nine fish processing plants under its umbrella, Alpha Group is the largest exporter of both freshwater fish and seafood in East Africa. The source of all raw material used by Uganda Fish Packers is Lake Victoria. The factory has capacity to process 80 tons of raw materials per day and it has capacity to store 300 t of frozen products and 100 t of chilled products

10.4 Legislative framework

10.4.1 For Fisheries and aquaculture

The Minister of State for Fisheries is directly responsible for the aquaculture sub-sector within the Ministry of Agriculture, Animal Industry and Fisheries. At the next level, the Permanent Secretary for the Ministry of Agriculture, Animal Industry and Fisheries supervises administration and accounting for the Department of Fisheries Resources, as well as the other departments in the Ministry. The Directors of Crop and of Animal Resources form the next level, and actual administrative control is vested by law in the Commissioner for Fisheries, legally known as the Chief Fisheries Officer, who heads the Department of Fisheries Resources, and works directly under the Director, Animal Resources. In addition, an independent Procurement Unit is responsible for all procurements and disposable public assets within the Ministry. The Fish Act (1964), which is currently under review, is the principal Act from which regulations for aquaculture have been developed. Existing aquaculture regulations include Fish (Aquaculture) Rules 2003, which regulate aquaculture practices, especially at the commercial level.

10.4.2 For investment and business enterprise and trade

A new Investment Code was introduced in 1991, in conjunction with previous implementation of a structural adjustment programme in 1987, brought a substantive change to the then foreign investment

policies in Uganda. The code introduced general investment incentives, guaranteed profit repatriation and provided protection against expropriation of assets. It also created the Uganda Investment Authority (UIA) which acts under the supervision of the Ministry of Finance and Economic Planning, as a one-stop-shop to process investment proposals, offer assistance and advice to potential investors.

The UIA licenses all foreign investments with a required minimum threshold of USD 100,000, if the application is in line with the Investment Code, and the envisaged activity is not unlawful or contrary of the interests of Uganda. Licensed investors are eligible for duty and tax exemptions. Investment licensing goes hand in hand with the granting of certificate of incentives, given that the investment meets the required threshold value and contributes to the objectives specified in the Investment Code. Investments in priority areas, in contrast to the ones in non-priority areas, are eligible for incentives of tax holidays. Foreign investors are exempted from corporate tax, withholding tax and taxes on dividends for a period of between 3 to 6 years. A harmonized commodity code was established for tax exemption for importing plants and machinery.

For business and investments, the most important laws are: The Bankruptcy Act; The Companies Act; The Income Tax Act, cap. 340; and The Value Added Tax Act, cap 349.

10.5 Business environment

Uganda had a GDP in 2007 of USD 10,8 billions, and the forecast predicts an annual growth of 6.4 % in 2008 and 6.6 % in 2009. The inflation forecast for 2008 is 9.2 % and 7.2 % in 2009, owing to high food and oil prices. Uganda's natural resources include copper, cobalt, oil and fisheries. The Transparency International rank Uganda 111 out of 180 countries, with a score of 2.8. This is the same score as Mozambique, way behind countries like Namibia, South Africa and Mauritius.

The Doing Business 2009 also rank Uganda 111 out of the 181 economies included in the report. In our selection of countries, this makes Uganda number 7, behind countries such as Mauritius, South Africa and Ghana, but ahead of courtiers such as Egypt and Tanzania. However, Uganda is scoring quite low on factors considered important to Norwegian businesses in fishery, as table 10.6 shows.

Table 10.6: Doing Business ranking 2009 and Norwegian fishery adjusted score - Uganda

Ease of...	Rank Doing Business 2009	Score adjusted model
Doing Business	111	151
Starting a Business	129	129
Dealing with Construction Permits	81	81
Employing Workers	11	11
Registering Property	167	334
Getting Credit	109	11
Protecting Investors	126	252
Paying Taxes	70	140
Trading Across Borders	145	435
Enforcing Contracts	117	117
Closing a Business	51	5

Compared to other countries in the selection, Uganda is ranked low on factors such as trading across borders, registering property and protecting investors. In our Norwegian fishery adjusted model, Uganda is therefore ranked the second worst country to invest in among the countries included in the study.

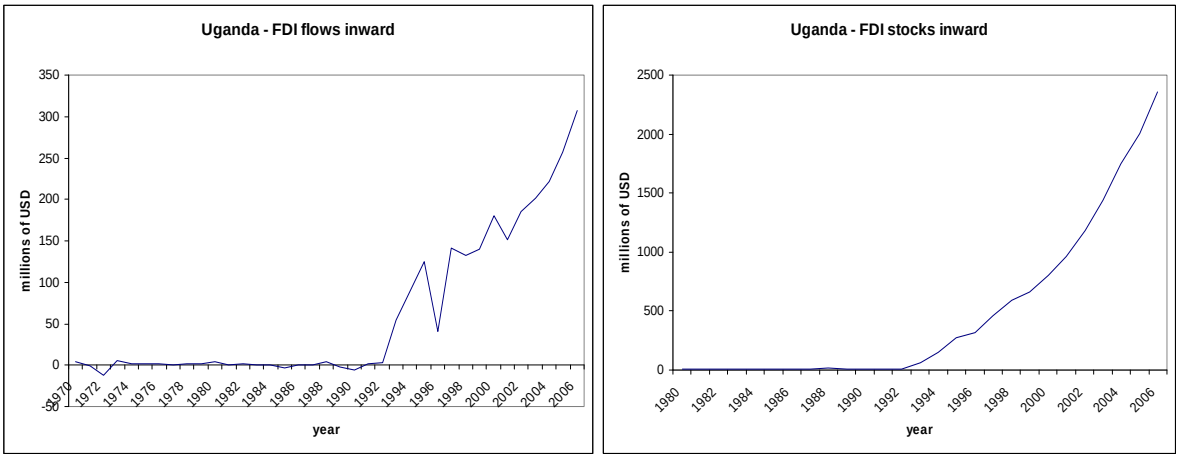
10.6 Foreign investments and trade in fish

Investor interest in Uganda remains high and is particularly strong from continental Europe and South Africa. Foreign investors range from small agricultural and agro-processing companies to TNCs. The South African companies are engaged in telecommunication business. The areas that the UIA has promoted more aggressively are horticulture, food processing, textiles and packaging.

The Government of Uganda (GOU) seeks to attract foreign direct investment and markets itself to companies in Europe Asia and the United States. Seeking to capitalize on nearly 20 years of security throughout much of the country, President Yoweri Museveni frequently encourages foreign businesses to set up operations in Uganda. The President recognizes and often publicly warns of the negative consequences of red tape and other irritants to potential foreign investors. Uganda's Universal Primary Education policy is creating a better-educated, English-speaking workforce. Ugandan policies, laws, and regulations generally are investor-friendly. Foreign investors may form 100 % foreign-owned companies and majority or minority joint ventures with local investors with no restrictions. The GOU permits foreign investors to acquire or take over domestic enterprises and encourages investments in new ventures. Ugandan courts generally uphold the sanctity of contracts, though the courts can be subject to political pressure.

Uganda's FDI stock as a percentage of GDP amounted to 25 % in 2006, and in real terms USD 2.3 billion. The annual average of FDI flows between 2003 and 2006 was USD 247 million. From being almost non-existing, Ugandan FDI flow increased from 1992 and onward with a sharp drop in 1997. The FDI stocks also rise from 1992 and onward to USD 2.3 billion in 2006 (Figure 10.4).

Figure 10.4: Inward FDI flows (1970-2006) and inward FDI stocks (1980-2006) - Uganda

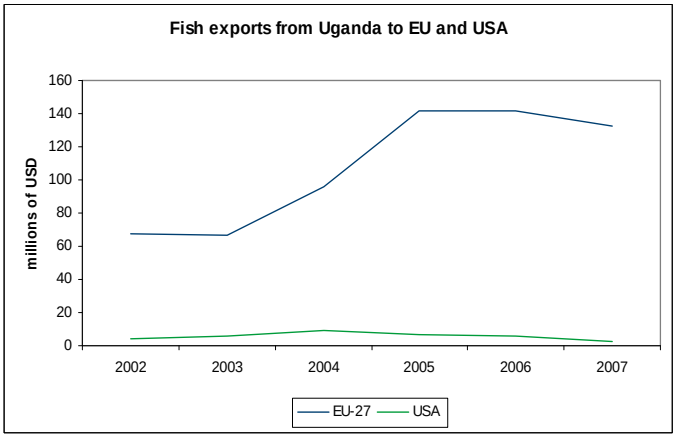


Source: UNCTAD 2008

The figure shows a sharp increase in FDI from the mid 1990s for both FDI flows and FDI stocks. Compared to other countries in our selection, Uganda has been quite late in attracting foreign investments, but it has yet to experience any drop in the FDI stocks. The FDI flow dropped in 1997, but has picked up pace since and places Uganda around the middle of our selection of countries.

The EU-27 import of fish products from Uganda has doubled since 2002. The import amounted to USD 67 millions in 2002, while it increased to USD 132 millions in 2007. This was a slight decrease since the peak in 2006 of USD 141 millions. The US import of fish products from Uganda increased steeply from 2002 to 2004 and then decreased. After peaking at USD 9 millions in 2004, the import amounted to just USD 2.7 millions in 2007.

Figure 10.5: EU and US import of fish product - Uganda

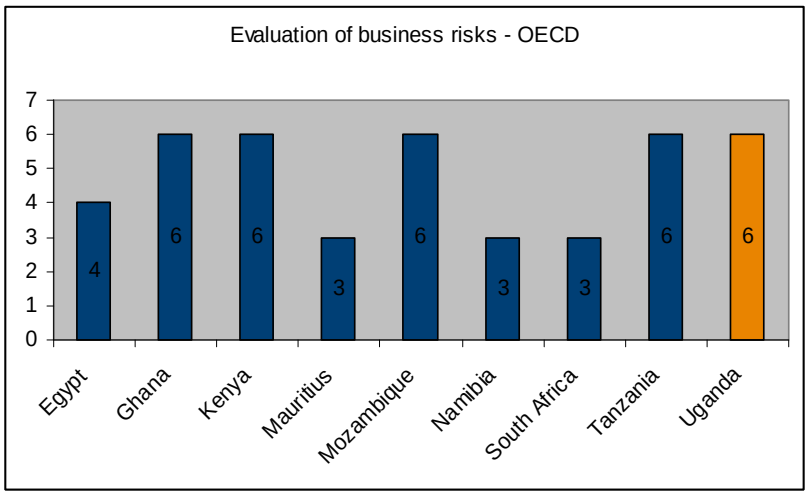


Source: UN Comtrade 2008

The amount of import from Uganda to the EU market puts it in the middle of the countries included in this report. The import amounted to USD 13 millions in 2007, while the import in 2002 was just USD 6.7 million. The big leap in import was especially between 2003 and 2005 where it doubled. The trend is slightly downward from 2006 to 2007, so it is difficult to predict further increase of decrease in the import from Uganda to the EU. The import of approximately USD 13 million from Uganda is about USD 200 million less than the import from Namibia and South Africa, but about the double of the import from Kenya and Mozambique.

10.7 Security conditions and evaluation of business risks

Figure 10.6: Evaluation of business risks, OECD - Uganda



OECD classified Uganda as a category 6 country in June 2008. This is equivalent to a credit rating of B to B-. ViewsWire classifies the political risk and the economic structure risk as a B, while the currency risk, banking sector risk and the country risk are rated BB. The ONDD rates Uganda 2 on their political risk scale from 1 to 7. The commercial risks are rated C.

10.8 Sector SWOT analysis and conclusions

Uganda has had an excellent record of political and economic development in the last decade, and with the rise of the Nile Perch capture and processing industry has shown a very strong area of sectoral economic growth. However this has been shown to be very vulnerable to resource pressures, and its realised value very closely tied with the performance of individual processing units.

Table 10.7: SWOT analysis - Uganda

Strengths	**Weaknesses**
• Relatively undeveloped coastal/marine resources • Good inland water resources • Some aquaculture and processing skills, and some support capacity • International tourist destination • The one-stop-shop for exports	• Small-scale and relatively uncoordinated sector • Resource management uncertainties • Tourist sector stagnation, constraints in food service development • Governance and transparency concerns • Lack of ability to monitor and control marine fisheries.
Opportunities	**Threats**
• Integrated approach to value addition and export using diverse national resources • Support services for aquaculture development • Possible aquaculture production with franchise/nucleus approach • New sector policy underdevelopment	• Political and economic instabilities; public sector constraints; • Other national/client interests competing for coastal or lake resources • Illegal fishing

10.9 Preliminary recommendation for relevant areas for investment potential

There is likely to be a series of investments in large scale aquaculture in Uganda, and these will require a range of infrastructure development inputs. There are good opportunities for development partnerships, but the poor ranking in doing business and the social and political uncertainties may make this a less favourable country than others to explore further.

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